Attainment Demonstration for Ozone for the Year 2007

The Phase 3 Attainment State Implementation Plan (SIP) for the Eastern Wisconsin Nonattainment Areas

December 22, 2000

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Table of Contents

- ✓ Sector-based Rate-of-Progress Assumptions
- ✓ Summary of the Post-2000 NOx-based Progress Plans

7. Mobile Sector Budgets Revision
   - NOx and VOC Budgets for Transportation Conformity based on the final ROP
   - Updating the Mobile Sector Budgets – Background on the Phase 3 Budget Refinement from the Phase 2 SIP levels
   - Commitment to Revise the Motor Vehicle Emission Budget based on MOBILE6
   - Ongoing Transportation Control Measures (TCMs) and Transportation Demand Management Components of the Ozone Attainment and Progress SIP Revisions

8. Revisions and Adjustments to other related Ozone SIP Components
   - Area Status and Tie-in of the ROP Plan to Prior Ozone SIP Elements
     - ✓ Door County Attainment Demonstration
     - ✓ Update to the Sheboygan and Kewaunee Maintenance Plans
   - Summary - Prior Ozone Plans (SIPs and SIP Revisions) related to Attainment
   - Implications of the Attainment SIP in regard to the Section 182 NOx Emission Control Waiver

9. Phase 3 Attainment SIP and Rule Development Process
   - Potential affected Parties and Stakeholder Input
   - Summary of Comment to the Draft Attainment and ROP Plans
     - ✓ Public Hearing Summary for AM-27-00
     - ✓ Draft Attainment SIP Comment and Response Summary

Additional Technical Appendices:

10. Phase 3 Attainment Demonstration Completeness Checklist
11. AM-27-00 Rule Language *(Main SIP Package)*
12. Draft AM-43-00 *(Plastic Parts Coating RACT)*
13. Hearing Notice for AM-27-00 *(Main SIP Package)*
14. Hearing Notice for AM-43-00 *(Draft Plastic Parts Coating Rule)*
15. Mobile Sources Emissions Modeling – Phase 3 Attainment Demonstration
16. Further Technical Details on ROP Assumptions
17. LADCO Regional Attainment Assessment
    a. Summary Document-2007 Attainment
    b. Emissions Inventory *[for the AQ modeling assessment]*
    c. 1-Hour Attainment Demonstration for the Lake Michigan Region *[The AQ Modeling Assessment]*

1. The WI Attainment Plan for the 1 Hour Ozone Standard - Summary

Introduction to the Attainment SIP

Wisconsin is required to submit to EPA this revision to its State Implementation Plan (SIP) to ensure attainment of the one-hour ozone standard throughout Wisconsin. The plan and its associated rules and programs, represent the third phase of a series of attainment demonstrations developed to address the one-hour ozone problem in eastern Wisconsin. These air quality improvement strategies combine federal, regional and local emission controls sufficient to demonstrate attainment of the standard by the Clean Air Act's attainment date for the region – 2007.

The rules contained in this revision are also necessary for Wisconsin to achieve the federally mandated rate-of-progress (ROP) objectives to reduce emissions of volatile organic compounds (VOC) and nitrogen oxides (NOx) for the years 2000 through 2007. In aggregate, the attainment plan is designed to assure that NOx and VOC emissions from sources in Wisconsin, in conjunction with anticipated VOC and NOx emissions from sources in upwind states, cease causing violations of the 1-hour ozone standard.

The plan assumes that the regional NOx SIP Call issued by USEPA, which addresses interstate ozone transport, is upheld by the U.S. Supreme Court. This plan is not designed to achieve future federal requirements related to 8-hour ozone concentration, fine particulate matter, hazardous air pollutants or regional haze, even though actions taken to implement this attainment plan may reduce these problems.

The modeling of this plan's VOC and NOx emission reductions support a finding of projected attainment by 2007 for the 1-hour ozone standard based on EPA's current attainment demonstration guidance. This demonstration assumes emission reductions from the NOx SIP call, where it is required, along with implementation of the federal Tier 2 tailpipe standards and low sulfur fuel requirements.

In addition to a modeled demonstration of attainment, this plan addresses other Clean Air Act (CAA) requirements including ROP emission reductions, Reasonably Available Control Technology (RACT) for VOC and excess emission fees. The language of the ROP provisions in the CAA explicitly require that Wisconsin achieve emission reductions averaging 3 percent per year until the attainment date of 2007. The CAA also specifically requires VOC RACT for all identified major source categories and the excess VOC emissions fee beginning in 2008 in order for EPA to approve the attainment plan.

Under this plan, the core attainment strategy now depends on major regional NOx reductions, combined with the prior, VOC-focused controls in order to achieve attainment by 2007. Because of this strategy, Wisconsin is selectively adjusting the "NOx Wavier" that EPA granted under Section 182 of the CAA to remove the waiver for NOx pass/fail cutpoints as part of the enhanced vehicle inspection and maintenance (I/M) program. Wisconsin is claiming credit for selective NOx control measures toward both the attainment demonstration and as a component of the rate-of-progress plan.

Except for the I/M component, the measures in this SIP revision are distinct from those covered by the NOx waiver – specifically, they are distinct from NOx New Source Review Control Technology [LAER], NOx New Source Review Offsets and existing major source NOx RACT. The agency anticipates that EPA will approve the continuation of such a modified NOx emission control waiver under 182(f). The CAA implies that Wisconsin can selectively pursue NOx control as necessary for attainment while continuing the remainder of the NOx waiver as long as the waived controls are excess reductions to those shown necessary for a timely attainment demonstration.

Major Components of the Phase 3 Attainment SIP

The Attainment Demonstration Plan, as supported by rules adopted under AM-27-00, includes elements that:

- Demonstrate improved air quality sufficient to attain the 1-hour ozone standard in all remaining Wisconsin nonattainment counties by 2007 (Door, Kenosha, Manitowoc, Milwaukee, Ozaukee, Racine, Washington and Waukesha);

- Ensure maintenance of the 1-hour ozone standard in Wisconsin nonattainment counties under the 1990 CAAA which have previously been redesignated attainment (Kewaunee, Sheboygan, Walworth) through this regional attainment demonstration;

- Update the contingency portion of the prior maintenance plans for Sheboygan and Kewaunee counties to remove the contingent local control (specifically an RFG opt-in option) that would go beyond the progress controls built into this attainment demonstration;

- Achieve the federally mandated rate-of-progress (ROP) deadlines for reducing VOC and NOx emissions in the milestone years of 2002, 2005 and 2007;

- Establish VOC and NOx emission budgets for mobile, area and stationary sources in 2002, 2005 and 2007;

- Set an ozone season NOx emission rate for 5 specific electric generation facilities for 2002, 2003, 2004, 2005, 2006 and 2007;

- Establish enforceable rate-of-progress control measures to meet the contingency requirement by setting the 2003, 2006 and 2007 emission rates for the 5 electric generation facilities;

- Establish Reasonably Available Control Technology (RACT) requirements for VOC emissions from industrial cleaning (e.g. - clean-up) operations in southeastern Wisconsin;

- Revise NR 410 to establish a federally mandated excess emissions fee of $5000/ton of VOC for major source emissions in southeastern Wisconsin if this area remains in nonattainment for ozone in 2008.

2. Ozone Attainment Assessment for the Year 2007 – Overview of the Regional Modeling Analysis and related Emission Control Program Assumptions

Ozone formation ("photochemical") modeling performed during 1999 and 2000 for the Lake Michigan region indicates Wisconsin areas can demonstrate attainment by 2007 under the assumptions of this final attainment plan revision. The following sections provide an overview of that assessment. A comprehensive set of attainment modeling documents developed through the Lake Michigan Air Directors Consortium (LADCO) is attached as Technical Appendix 16 (a, b, and c).

Pursuit of a NOx Control Strategy to Address Ozone Attainment in the Lake Michigan Region

In the early 1990's Lake Michigan area attainment evaluations focused more on local and smaller region attainment issues. Those assessments focused on an ozone control strategy built predominantly around urban area VOC controls. These assessments led EPA to approve the Lake Michigan states' mid-1990's request for a "NOx waiver" for some of the CAA-specified NOx controls for their ozone nonattainment areas. This conditionally exempted the areas from NOx controls beyond those achieved through other parts of the Clean Air Act such as new vehicle emission control standards and national acid rain controls.

The ozone attainment demonstration modeling evaluations that supported the regional Ozone Transport Assessment [OTAG] effort (1995-97) and an updated Lake Michigan attainment strategy (1997-1999) showed that this region's ozone problem would positively respond to a strong regional NOx control effort in conjunction with the more localized area VOC control strategy. Significant effort since 1995 has focused on the necessary scope of a regional NOx control effort to reach attainment.

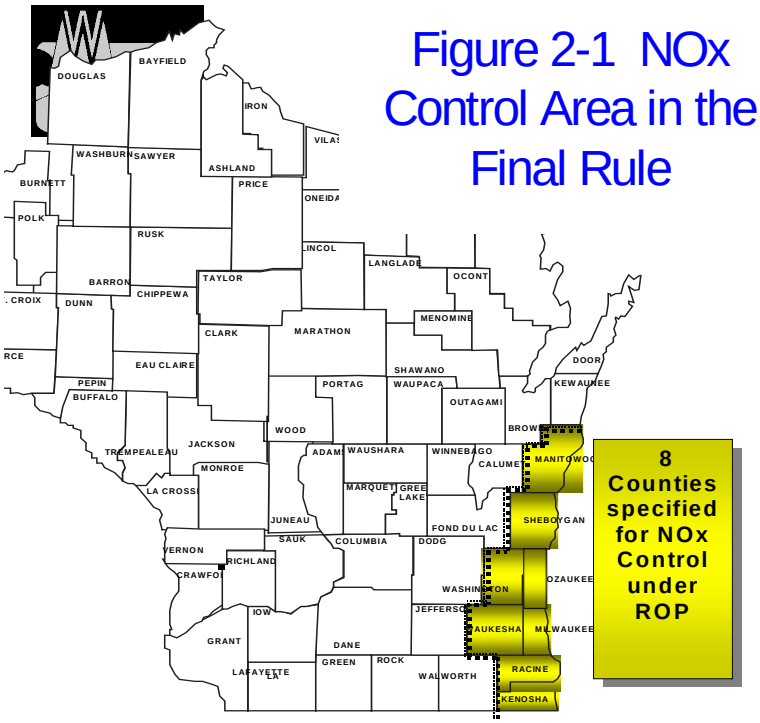
Major portions of a regional NOx control strategy to achieve attainment of the 1-hour ozone standard are reflected in EPA's NOx SIP call to multiple eastern US states. An additional component is reflected in EPA's positive response to several Section 126 petitions from northeastern states for NOx reduction from certain mid-western states. Though identified in earlier steps of program development for both actions, Wisconsin is not now included in the mandatory control regions associated with either. However, both programs are structured to significantly reduce major point source NOx emissions in the Lake Michigan region directly upwind of Wisconsin's sensitive ozone areas through fully enforceable mechanisms. Hence, these reductions through 2007 are reflected in the attainment modeling.

EPA guidance allows states to craft final ("Phase 3") attainment demonstrations based on some increment of NOx control without automatically triggering those measures previously waived. Areas can retain their core waiver from prescribed NOx controls while pursuing other timely and enforceable NOx control measures. Where appropriate from an air quality assessment perspective, such NOx reductions can also be counted toward the VOC-based ROP plans as long as a proportionate NOx reduction occurs compared to the claimed VOC ROP credit. This allowed Wisconsin to craft an efficient NOx and VOC control plan to meet attainment and ROP without automatically tripping NOx control measures specified in the CAA and without being involved in the regional NOx SIPs.

Geographic Scope of Additional NOx and VOC Control

Because the most recent technical evaluations indicated a need to focus the control effort on NOx sources as well as VOC sources, NOx control measures were developed for eight of the counties in southeast Wisconsin originally designated in 1990 as "severe" or "moderate" for ozone nonattainment under the Clean Air Act. The eight counties contain NOx and VOC sources shown to directly impact ozone concentrations in these and downwind areas of Wisconsin violating the 1-hour standard. The reductions from the entire area are creditable under current EPA guidance to rate-of-progress requirements for the

period through 2007 or until attainment is demonstrated. The 8 counties include Kenosha, Manitowoc,



Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha. The final "control region" is shown in **Figure 2-1 – NOx Control Area in the Final Rule.**

The Department initially took a draft package to public hearing that requested comment on the creation of a Secondary Ozone Control Region and an Ozone Maintenance Region. In addition that draft included Kewaunee County as part of the principal control area. The geographic extent of the emission controls in the draft generated a great deal of discussion with stakeholders. The narrowed scope of the rate-of-progress control program finally adopted reflects the Department's resolution of the issues raised on that earlier draft proposal while still ensuring modeled attainment.

1999-2000 Attainment Modeling and Air Quality Analyses for the 1-Hour Ozone Standard

The four Lake Michigan states of Illinois, Indiana, Michigan and Wisconsin have been pursuing the development of a regional agreement to demonstrate attainment of the 1-hour ozone standard for the last 10 years. The Lake Michigan Air Directors Consortium (LADCO) provides the platform for regional air quality assessment. Efforts have included an intensive field study on ozone formation in the region followed by several regional ozone air quality modeling and data assessment efforts since 1990. The LADCO states have entered into memorandum of understanding to pursue these regional evaluations and related control programs studies in an attempt to reach regional agreement on ozone attainment efforts.

During 1999 and early 2000, LADCO modeled a series of regional control strategies to define the control level necessary to demonstrate attainment by 2007. Those efforts included emission controls for VOC and NOx from upwind states. This provided a basis for assessing the additional NOx (and/or VOC)

control effort needed regionally, in the three states of Illinois, Indiana and Wisconsin, to meet a US-EPA "test" for modeled attainment in a Lake Michigan receptor area.

Notable control elements in the baseline for all the attainment modeling included:

- the most recent federally-adopted new vehicle and equipment emission standards,
- the 1996 and 1999 ROP reductions and RACT measures for VOC for all areas in the modeling domain,
- Stage 2 vapor recovery, enhanced I/M (exclusive of NOx cutpoints) and other CAA regulations like reformulated gasoline applied to the appropriate Lake Michigan areas,
- the impact on heavy duty diesel truck NOx emissions associated with the 1998 engine manufacturer consent decrees,
- Clean Air Act mandated controls including the Title 4 Acid Rain NOx reductions.

With the federal Appellate Court decision reinstating the NOx SIP Call for Michigan, Illinois and Indiana, but not Wisconsin, the most recent modeling efforts were restructured consistent with the Court's decision. The modeled attainment demonstration strategies reflect a NOx SIP level of reduction for IL, IN, MI, eastern MO, and a lessor effort on the part of WI.

Due to the extended uncertainty created by the Court's decision on the NOx SIP Call, the LADCO states could not reach agreement on a single scope of follow-up attainment modeling. Therefore, DNR completed an initial, individual modeling assessment to support the attainment demonstration assuming the application of the NOx SIP Call in every state except Wisconsin. Subsequent modeling agreements by LADCO (summer 2000) included various strategy assessments including two formal strategies with this bifurcated regional NOx control assumption. This attainment demonstration is developed consistent with those two LADCO strategies (numbers 16 and 17 in the LADCO Technical Appendix).

Ozone Modeling Summary

LADCO uses a system of three models to evaluate the effects of various ozone control strategies on the Lake Michigan region. The meteorological model provides detailed estimates of meteorological variables such as wind fields, temperature, solar radiation and humidity for use in the chemistry model. The emissions model has the capability to adjust emissions for time of day and day of week, distribute emissions to the appropriate geographic areas and separate emissions into various chemical species for processing in the chemistry modeling. Using the output from the emissions and the meteorological model, the chemistry model simulates the transport and formation of ozone in the region. The resultant predicted ozone concentrations are used to determine if acceptable air quality is achieved under a given control strategy. DNR uses LADCO's modeling system and baseline information to test the effectiveness of various control programs that are of interest to us.

LADCO developed baseline inventories for the ozone episodes and used the emissions model to forecast 2007 baseline conditions. Control assumptions under assessment for the various reduction strategies were applied to the projected inventory baselines for the 2007 attainment tests. For the largest NOx sources in the region, LADCO utilized average daily ozone season NOx emissions assembled from 1995/96 ozone season monitoring data reported to EPA under the Acid Rain program. For sources and source categories without this continuous emissions monitor (CEM) data, LADCO applied economic growth forecasts to adjust daily estimates from data reported for 1996 under the states' annual inventory structures. For mobile sources, LADCO applied EPA's MOBILE model and applied adjustment factors to account for more recent regulations and technical modeling assumptions. Off-road engine and area source emissions were similarly grown and controlled in as consistent a fashion as could be applied by the four states.

LADCO conducted most of the modeling using a 12 Km grid structure. LADCO found that the finer 4 Km grid structure for the model did not improve model performance and greatly increased model run time. The current LADCO evaluations use four ozone episodes, two from the 1991 and two from 1995.

The four episodes reflect ozone problems in slightly different parts of the Lake Michigan domain. Two of the four adequately reflect "typical" ozone episodes in Wisconsin.

Meeting US EPA's Attainment Test

The 1996 EPA guidance for demonstrating 1-hr ozone attainment describes two acceptable approaches. The most difficult approach involves passing a deterministic test that requires a demonstration for all modeled days of predicted maximum ozone concentrations below 125 ppb, the 1-hour ozone *[monitoring]* standard. A second approach involves statistical tests for passing three benchmarks more reflective of the form of the standard. The statistical test incorporates an adjustment to reflect how severe the meteorology was during the modeled episode. If neither approach clearly demonstrates attainment, a "weight-of-evidence" determination may be conducted. The "weight-of-evidence" provides additional information to those reviewing the attainment demonstration to determine if attainment is probable in the real world even though the tests do not show attainment of the standard.

Attainment can be demonstrated with either approach as long as the modeling platform accurately predicts ozone under the tested conditions. Separate performance statistics are derived in the analysis to determine if projected peak concentrations are close enough and if there is any overall bias in the modeled output.

The 1999-2000 LADCO and Wisconsin modeling results show that implementation of NOx controls incorporated in this SIP revision for Wisconsin are not sufficient in and of themselves to demonstrate attainment of the standard. These "local" NOx control programs include the basic ROP requirements for 2002, 2005 and 2007. Therefore, for the 1-hour ozone standard to be attained in Wisconsin, these Wisconsin NOx control programs have to be augmented by implementation of the NOx SIP call in Illinois, Indiana and the other upwind states subject to the SIP call and the Section 126 NOx control actions.

A complete description of the attainment assessment is contained in ***Technical Appendix 17****.*

Effectiveness of Wisconsin area NOx Control in reducing Wisconsin Ozone Exposure

In Wisconsin almost 100% of all high ozone site-days occur on days when the surface winds have a considerable southerly component. Consequently, every one of the back trajectories in this study has a strong southerly component. A review of 24-hour back trajectories calculated for four Wisconsin ozone area sites during 20 high ozone days associated with the ozone attainment assessments indicates that there are two general surface air flow patterns contributing to elevated ozone concentrations in eastern Wisconsin:

A) On approximately half of the study days, the sites' back trajectories displayed a due southerly-to-southeasterly path.
B) On the remaining half of the study days, the sites' back trajectories indicated a strong southwesterly direction.

The analysis indicated that ozone precursor emissions from southern and eastern Wisconsin, most especially the 8 county NOx control region, frequently contribute to high ozone concentrations in the non-attainment counties in eastern Wisconsin. Other modeling-based analyses corroborate this conclusion and form the rationale for using NOx reduction in Wisconsin to help meet part of the rate-of-progress emission reduction objectives through 2007.

8-Hour Average Ozone Concentrations Resulting from Implementation of the 1-Hour Attainment Plan

Although implementation of the ozone control programs identified in the plan, in conjunction with sufficient and timely upwind reductions, will achieve attainment of the 1-hour ozone standard, they fall short of demonstrating attainment for the 8-hour standard, the implementation of which is currently under

court review. The modeling results show that emission levels that can meet the 1-hour standard may still result in 8-hour ozone concentrations that exceed the 8-hour standard in eastern Wisconsin. Additionally, ozone concentrations appear to exceed the 8-hour standard in western Michigan, where Wisconsin sources significantly contribute to the high concentrations. Therefore, if the 8-hour standard is eventually upheld in federal Court, additional NOx and/or VOC reductions will be necessary in the Lake Michigan Region, and perhaps in parts of Wisconsin.

Updated Regional NOx and Motor Vehicle Emission Control Program Assumptions in the Attainment Demonstration

Regional NOx Reductions based on the Federal NOx SIPs and Section 126 Petitions

A significant portion of Wisconsin's attainment strategy is based on timely implementation of NOx control programs that are federally required for areas contributing to ozone and ozone precursor transport that impacts eastern Wisconsin air quality during summer ozone episodes.

The federally-based regional NOx control programs have taken two forms. The first is a federal call for statewide NOx Control Plans (SIPs) for multiple eastern US states that will produce average levels of NOx emissions from the major coal boilers at an approximate 0.15 lb NOx/mmbtu emission rate for 2007 grown activity levels to be included in their own attainment demonstrations. There is flexibility on how statewide NOx budgets (or caps) can be met, but the program design assumes a cap-and-trade structure for NOx credits that all affected program areas can access as an active NOx credit market. A second mechanism is a less flexible control requirement specified by EPA for many of the largest and most utilized boilers in the broad region. Lake Michigan States with sources affected by these two programs include Illinois, Indiana, Michigan. Upwind states shown to affect Lake Michigan ozone levels included in the programs are Ohio, Kentucky, Alabama, Tennessee and Missouri.

Wisconsin has to date been excluded from these two federal programs due to an absence of demonstrated impact on other states' air quality for one-hour ozone. Eastern Wisconsin emissions have been shown to impact the air quality of Wisconsin nonattainment areas, hence the continued need for the rate-of-progress based control plan.

Elements of both the NOx SIP call and the federal requirements associated with the Section 126 petitions continue to be litigated federally, however, the litigation no longer includes legal stays to control program implementation requirements. Implementation timing has been delayed through the litigation by one year. NOx budgets are first required for the 2004 ozone season and will ramp to the complete control level over a short number of seasons due to the up-front inclusion of a "compliance supplement" buffer of limited extra NOx credits.

The Lake Michigan attainment assessments included control strategies evaluated at the NOx SIP call control level ("0.15") for states upwind of Wisconsin and for a lessor "0.25" control level for all states including Wisconsin. The relevant LADCO control strategies for this attainment demonstration include the finally adjusted scenarios 16 and 17 that include Wisconsin NOx control (for the 8 county area) at the rate-of-progress plan levels and the upwind states at the NOx SIP and 126 petition levels.

Accounting for the recent Tier 2 Vehicle/Low Sulfur Gasoline program, the 2004 HD Diesel Program and the EPA/Engine Manufacturer Consent Decrees

Another federal initiative that solidifies prior emission standards for heavy duty vehicles (the long haul trucks) is EPA's "consent decree" with certain domestic truck engine manufactures that is intended to fully mitigate the excess NOx emissions impact associated with certain "diesel defeat devices" that were fraudulently built into engines under an earlier tier of diesel engine emission standards. That decree includes a commitment to adopt newly-promulgated 2004 emission standards in engines sold starting in the 2002 model year. In addition, the decree includes a commitment by the manufacturers to rapidly rebuild existing fleet engines that contain the devices to achieve the new NOx standards under all normal driving patterns (to not produce "excess" emissions).

While the LADCO modeling and WI's attainment and ROP assessments attempted to account for these actions, some of the elements may yet be affected by updated agreements or litigation. Some of the commitments, such as the rebuild responses are subject to uncertain compliance. In addition, the EPA-based modeling assumptions supporting this portion of the vehicle fleet emissions are very rough. It is not clear if MOBILE6 will address the NOx emission rate uncertainty associated with the decree for the 2000 to 2007 timeframe. This element will likely be reviewed for potential impact on the attainment assessments during the 2003-2004 regional attainment strategy review by the four Lake Michigan states.

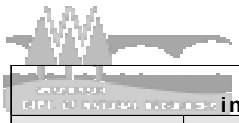
3. Stationary Source NOx Controls in Wisconsin

Basic NOx Control Program Overview

The two principal components of the NOx control program for stationary sources include:

- combustion optimization and NOx emission performance standards for existing sources and
- NOx emission performance standards for new sources.

These NOx controls are designed to meet the ROP milestones and to prevent any growth in emissions from stationary sources of NOx emissions from exceeding those sector-based ROP budgets. The



Final NOx Controls - Table 3-1

Stationary Source NOx Emission Controls in the 1-Hour Ozone Standard Attainment Demonstration

Ozone Control Regions in SIP	Offsets for Major NOx Sources	Minimum Performance Standards for New Facilities*	Minimum Performance Standards for Existing Facilities	Large Electric Generation Facilities (EGUs)
8 SE WI Counties	No Offset Requirement	2001 * Excluding those located in Sheboygan and Manitowoc Counties	Dec 31, 2002 Includes Large Unit NOx Emission Limits and Combustion Optimization	Dec 31 of Specified Year: 2002 - 0.33 lbs/mmbtu 2003 – 0.31 " 2004 – 0.30 " 2005 – 0.29 " 2006 – 0.29 " 2007 – 0.28 " EGU System Average Rate *(30 day rolling avg)*
Remainder of State	No ROP-based Control Requirement - Voluntary Combustion Optimization, Tune-up and NOx Performance Commitments by Large Sources [1]			

1 – No voluntary emission reductions are used to meet the Rate-of-Progress milestones in this Plan.

performance standards for existing sources become effective at the end of 2002 and impact emission levels by the start of the ozone season in 2003. The standards for new or modified sources become enforceable after the effective date of the rule and affect emission levels throughout their operation. Requirements for existing facilities apply to an 8 county area while the added new source limits apply to the smaller area 6 severe county region. Most of the progress-creditable (NOx) emission reduction is associated with the 8 county existing source control component.

Table 3-1 provides information on key aspects of the NOx Control Plan to meet the ROP requirements for 2002 – 2007 and a comparison of the NOx reduction effort required at stationary sources including large electrical generating units (EGU's).

The utility boiler emission limits set corporate, system-average, NOx emission rates on an ozone season basis for 17 of the 18 largest electric generation units located at five facilities operated by the WEPCO and Alliant electric utility systems. These average rate limits decline over the period 2002 through 2007. The rates become effective December 31 of each year and effectively limit NOx emissions the following ozone season. The coal-fired facilities include Valley, Pleasant Prairie, Oak Creek, Port Washington and Edgewater.

The plan also establishes minimum performance standards for other NOx sources above specified threshold levels. These standards are based on unit-specific emission limits for the ozone season and on

combustion optimization requirements. Based on historic data, these standards are projected to affect 31 units at 16 additional facilities in the 8 county area. The proposed NOx limits and performance standards are based on fuel type, combustion unit type, and size. To provide compliance flexibility, the NOx emission performance standards incorporate NOx emission reduction trading as an alternate compliance tool for sources if the sources use adequate NOx emission monitoring and tracking systems.

The plan sets performance standards for NOx emissions for new facilities and major modifications above certain threshold sizes based on their potential to emit NOx. In a "typical" year, the agency anticipates that up to 15 new or modified units could be affected by these standards in the 6 county area. Larger "new" units will remain subject to the current PSD-BACT control requirements for major NOx sources as defined under the CAA.

Description of NR Code Provisions for Stationary NOx Control Program

NR 428 implements a stationary source NOx reduction program to meet CAA 1 hour ozone attainment SIP and Rate of Progress requirements through 2007. The program establishes emission performance standards for specific types of existing sources in the eight non-attainment counties and for new or modified sources in the six "severe" non-attainment counties. The existing source requirements affect 48 electric utility boilers and large industrial combustion units starting December 31, 2002. The program also implements new source performance standards prior to the 2001 ozone season. The rule provides flexibility in meeting emission limit standard provisions by allowing emission rate averaging and trading among the affected units.

The NR 428 rule language consists of general provisions for Applicability, Purpose, and Definitions followed by specific requirements structured under the following three sub-chapters:

- **Subchapter I (NR 428.04 – 428.05)** - Subchapter I delineates applicable source categories and performance standard requirements.

- **Subchapter II (NR 428.06)** – Subchapter II establishes multiple unit emissions averaging and trading compliance mechanisms as an alternative means of meeting the emission rate requirements of Subchapter I.

- **Subchapter III (NR 428.07 – 428.11, and 439.096)** – Subchapter III provides the methods and procedures for the monitoring, reporting, and NOx optimization procedure to meet the requirements set forth in Subchapter I and II.

Performance Standards for Existing Sources

NR 428.05 establishes ozone season NOx emission performance standards for existing stationary sources in the eight Wisconsin non-attainment counties of Kenosha, Racine, Milwaukee, Waukesha, Ozaukee, Washington, Sheboygan, and Manitowoc. The existing source program consists of three types of standards (**Table 3-5**): 1) electric utility system-wide emission rate limits, 2) unit specific emission rate limits, and 3) a combustion optimization performance requirement. These standards assign a decreasing level of control consistent with emissions significance, source category, and unit utilization. The program does not place requirements on the large population of medium to small combustion sources found within the eight counties. The compliance date for all existing source standards is December 31, 2002 and new source standards are expected before the 2001 ozone season (effective upon the publication date). **Figure_3-1** illustrates the region to which the performance standards apply.

Electric utility system emission limits

NR 428.05(3)(a) establishes a NOx emission limit for the majority of electric utility boilers during the ozone season. The emission limit is fuel neutral and applies uniformly to all utility boilers equal to or greater than 500 mmbtu/hr. To balance rate-of-progress needs, cost effectiveness, and technical considerations the initial limit starts at 0.33 lbs/mmbtu in 2002 and decreases annually through 2007 to a final rate of 0.28 lbs/mmbtu (**Table 3-5**). This structure establishes a phased reduction of utility emission

on a system-wide basis. The rule requires the emission rate limit to be met on a 30 day rolling average basis with compliance demonstrated with Part 75 monitoring.

Unit-specific emission limits

NR 428.05(3)(b – e) establishes ozone season NOx emission limits for large stationary sources in the eight non-attainment counties not addressed under the utility boiler provision. These emission rates apply to individual units by fuel type for the source categories of boilers, furnaces, combustion turbines, and reciprocating engines. All limits are to be met on a 30 day rolling average in lbs/mmbtu with compliance based on Part 60 or equivalent monitoring as specified under NR 428.05(4)2.

The boilers and furnaces affected by this provision have a capacity of 100 mmbtu/hr or greater and a 25% or greater capacity factor during the 2000 ozone season. In, addition the any source which triggers the capacity factor threshold in a later season must comply with the requirements by December 31st of the following calendar year. This approach controls units with significant operation during the ozone season and serves to capture any unit growing in capacity utilization through the future. This requirement does not apply to those boilers affected by the utility boiler system-wide emission rates. However, it does apply to individual utility boilers below the 500 mmbtu/hr threshold.

The applicability threshold for combustion turbines and reciprocating engines is based solely on nameplate capacity as specified in **Table 3-5**. In addition, the emission limits are specified in units typical to these two source categories. Although, these units do not co-incide with the requirement of expressing compliance in lbs/mmbtu (NR 428.05(4)(2)), Part 60 monitoring provides the basis for conversion between the two requirements.

Combustion Optimization

NR 428.05(2)(a) and (b) require significant stationary source categories not subject to an emission rate limit to perform a "NOx Combustion Optimization" by December 31, 2002. Sources are required in NR 428.05(2)(d) to operate consistent with a unit's "Low NOx Operating Curve" based on the results of the specified optimization procedure. The affected units, specified by NR 428.05(2)(b), are external combustion sources with a firing capacity of 75 mmbtu/hr or greater and which operate at 20% utilization factor or greater during the 2000 ozone season (**Table 3-5**). Paragraph (d) of this section also provides that any existing unit with a 20% or greater capacity utilization in any ozone season after 2000 must meet optimization requirements by December 31st of the following year.

The combustion optimization methods and procedures are specified in NR 439.096. This requires an owner / operator of affected sources to perform an engineering study or analysis which address specific combustion process elements as outlined by 439.096(8)(a). Based on this analysis, an optimization and emissions testing plan is developed for each unit and submitted to the department for review and determination of completeness. The combustion optimization is then performed on the unit to minimize NOx emissions and maximize efficiency over the unit's potential load swing. Based on these results, the operator proposes a "Low NOx Operating Curve" for the unit demonstrating NOx emissions versus capacity load. The results of the optimization and proposed low NOx curve is subject to department approval as stated under 428.096(9).

Compliance, as outlined in Section NR 428.05(2)(e) and 428.096(8)(c), requires that either NOx emissions or other related combustion parameters be monitored using a continuous combustion analyzer sufficient to demonstrate operation in the "Low NOx" mode. The operator can request to use periodic monitoring if it is demonstrated to be consistent with load swing patterns and fluctuation in combustion parameters.

Performance Standards for New Sources

NR 428.04 establishes performance standards for new or modified NOx emission sources within the six severe ozone non-attainment counties of Kenosha, Milwaukee, Ozaukee, Racine, Washington, and Waukesha. The standards, specified in section 428.04(2), implement an emission rate requirement for significant sources by category and fuel type (**Table 3-6**). Consistent with the existing source program, limit compliance is to be met on a 30 day rolling average and demonstrated by Part 60 monitoring. However, these limits are enforced on an annual basis and not on an ozone season basis as required for existing sources. Under, NR 428.04(1) these same standards apply to existing sources undergoing a major modification as defined by the current Wisconsin New Source Review program.

Performance Standards Compliance and Reporting

All emission rate limit standards established under the NR 428 stationary source program are to be met on a 30 day rolling average basis. This continuity provides flexibility and compatibility between sources for emissions averaging and trading. To demonstrate a real 30day rolling average, existing sources, would have to implement monitoring 30 days prior to the ozone season. However, because the limit is enforced on the first day of the ozone season, a source could demonstrate compliance by meeting the limit based on that day's NOx emissions alone. The source can then accrue averaging days up to demonstrating a full 30 day rolling average. This approach complies with a 30 day rolling average limit as a shorter averaging period would serve only to increase the limit stringency. This approach is not available to new sources as they are required to meet emission limits on a year round basis and therefore will have a continual 30 day rolling average.

As referenced for new and existing source categories, all units with an emission rate limit are required to perform Part 60 or equivalent monitoring. However, the large utility boilers are required to demonstrate compliance with system wide average emission rates in lbs/mmbtu using 40 CFR Part 75 monitoring to be consistent with acid rain monitoring requirements for these units. This also provides the basis for determining mass emissions during the ozone season. The methods and procedures for Part 75 monitoring and data gathering are specified under NR 428.08(1). The methods and procedures for Part 60 monitoring and data gathering are specified under NR 428.08(2).

Units performing an Combustion Optimization are required to perform continuous NOx or parametric combustion monitoring approved by the department using a combustion analyzer as specified under NR 428.05(2)(e).

Record keeping and reporting requirements are specified under NR 428.04(4) for new sources and 428.05(5) for existing sources. All sources are required to keep monitoring data and records specified for applicable Part 75, Part 60, or Combustion Optimization monitoring on site for a period of 5 years along with all other reports, compliance certifications, and other submissions. The large existing utility boilers under NR 428.05(3)(a) are required to submit a compliance report for each applicable calendar quarter to be consistent with Acid Rain reporting. NR 428.05(3)(b) requires that all other units subject to an emission limit to submit a compliance report for each calendar year. Units affected by the combustion optimization are not required to submit an annual compliance report, but as stated above must keep sufficient records on site to demonstrate compliance.

Compliance Options

Unit Averaging of Emission Rates – NR 428.06(1) provides for multiple units under common ownership or control by a single corporate entity to participate in emission rate averaging. This demonstration must be calculated on a heat input weighted basis of each participating unit during the same operating period. The minimum requirement for averaging as stated under 428.06(1)(b) is Part 60 monitoring. This effectively allows units subject to Part 60 to be unit averaged with units subject to Part 75 monitoring.

The program requires that a new source must first meet its applicable emission limit before averaging with another unit. This prevents under-control of a new unit by averaging with a over-controlled existing unit. This is consistent with other new source programs promulgated by EPA

Trading – The rule under 428.06(2) provides for emissions trading between corporate entities for any new or existing unit subject to a NR 428 program emission limit. However, as with "Unit Averaging", all new sources must first meet applicable emission limits before participating in a trade. Also, any source of emission credits must demonstrate that traded reductions are below their 2000 ozone season mass emissions.

Units participating in either trading or averaging are required to submit the appropriate monitoring data and calculations in the compliance report for the participating units.

Estimates of Emission Impact

Existing Electric Utility limits - The electric utility system-wide limits affect 17 units at 5 generation sources in the eight county area (**Figure 3-1**). The utility system NOx reductions are projected to be 32 tons per day in 2002 and 59 tons per day by 2007 (**Table 3-1**). The emissions are estimated from the average of 1995, 1996 and 1997 heat input grown through each ROP target year at an 1.8% annual rate (22% from 1995 to 2007). Refer to the Rate-of-Progress section for details of applying reductions to ROP targets.

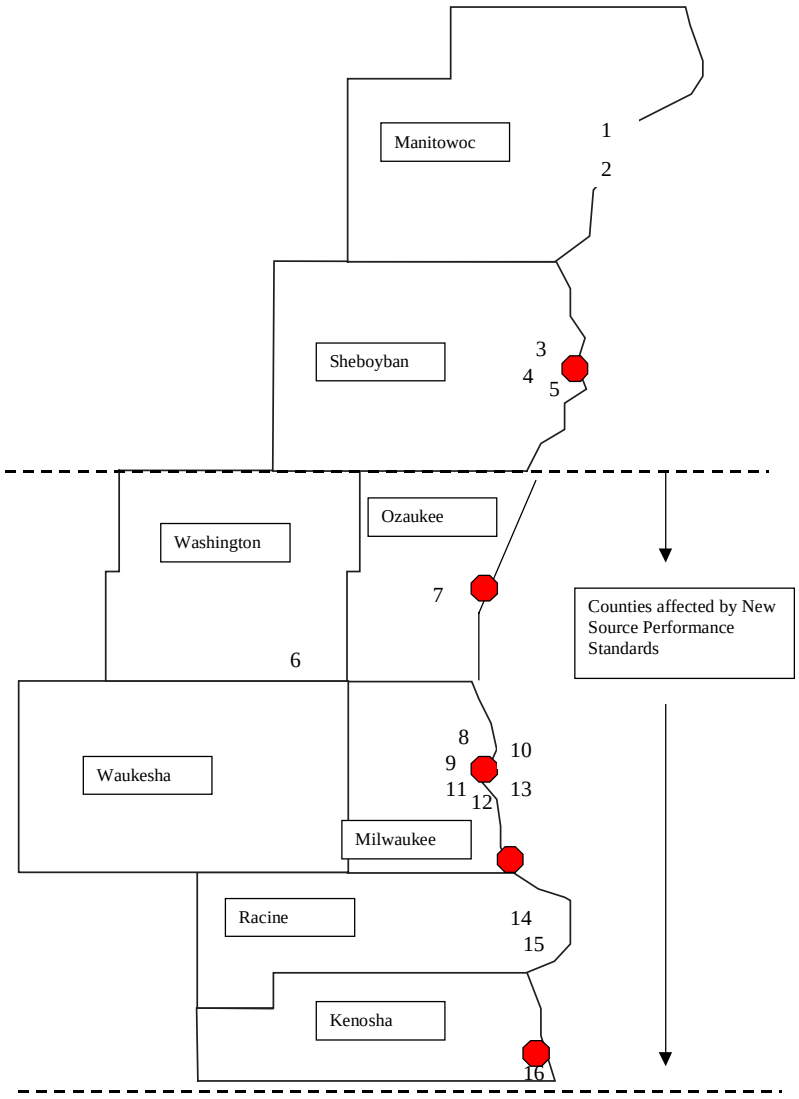
Existing Unit Specific Emission Limits and Combustion Optimization - Since the unit specific emission limits and combustion optimization requirements are based on the unit's capacity and utilization in the 2000 (or later) ozone season it is not possible to specify a final list of affected sources. However, it is possible to determine from historic data those sources that are likely to be affected and their associated emission reductions. An analysis of 1995 date identified 31 industrial and small electric generation units at 16 sources that are likely to be affected under this portion of NR 428 (**Figure 3-1** and **Table 3-2**). Application of the emission limits and combustion optimization procedure on this basis yields a total reduction of 4.6 tons per day during the 1995 ozone season.

The ROP baseline for industrial emissions is established by growing NOx emissions at an 1% annual rate from the 1995 baseline. However, since growth may not specifically occur at the units affected by the existing source performance standards it is assumed for rate-of-progress that the NOx reductions remain level for 2002 through 2007 at the estimated 4.6 tons per day. This is anticipated to underestimate the total emission reduction impact of the program against the future growth of emissions.

New Source Performance Standards - Several pieces of information are used to estimate the emission reduction potential of the NR 428 new source performance standards. The NOx emission reduction estimated for these purposes is based on the incremental impact of controlling those units not captured by the new source review and prevention of significant deterioration programs. An analysis of typical new uncontrolled sources is compiled in **Table 3-3**. This shows that any one relatively large uncontrolled source could potentially emit 0.13 to 0.66 ton per day, but that the 428 program could reduce these emissions by 43% to 75%.

This is compared to a review of 1999 issued permits where uncontrolled sources have the potential to emit approximately 1 ton per day (**Table 3-4**). This assumed to represent a maximum annual increase in NOx emissions from new sources. Assuming a 50% average reduction across all new sources (**based on Table 3-3**) this would potentially yield a 0.5 ton per day reduction achieved by the NR 428 new source program. Since sources are not expected to utilize their full potential to emit or run at maximum loads through the whole ozone season, the real reduction estimate is adjusted to 0.4 ton per day for rate-of-progress purposes.

Figure 3-1 - Non-Attainment Counties Subject to NR 428 Performance Standards and Facilities Identified and Potentially Affected



Utility Facilities affected by System-Wide Emission Limits

Edgewater

Port Washington

Valley

Oak Creek

Pleasant Prairie

Key	Facilities affected by "Unit Emission Limits" or "Optimization"
1	Manitowoc Public Utility
2	Rockwell Lime
3	Kohler
4	Plastics Engineering
5	ANR Pipeline
6	WEPCO - Germantown
7	Charter Steel
8	DOA / UW Milwaukee
9	Mid-American Drum
10	Miller Brewing Company
11	Milwaukee Co Power Plant
12	Pfister and Vogel Leather
13	Wisconsin Paperboard
14	Ball & Foster Glass
15	Case Corporation
16	WEPCO - Paris

Table 3-1. Emissions Impact for Utility Boilers affected by System-Wide Emission Limit (1)

Year	Heat Input (mmbtu/day)	Baseline Emissions		NR 428 Emissions		
		Avg E.R. (lbs/mmbtu)	NOx Emitted (TPD)	Avg E.R. (lbs/mmbtu)	NOx Emitted (TPD)	NOx Reduction (TPD)
1990			161			
Average of 1995,96,97	584,646	0.50	145			
2002	659,481	0.44	147	0.33	115	32
2005	691,636	0.44	154	0.32	112	42
2007	713,268	0.44	159	0.28	100	59

(1) Individual units include: Edgewater 3,4,5; Oak Creek 5,6,7,8; Pleasant Prairie 1,2; Port Washington 1,2,3,4; and Valley 1,2

Table 3-2 - Identified Facilities Potentially Affected by Unit Specific Performance Standards and Combustion Optimization for Existing Sources (Based on 1995 WDNR Air Emissions Inventory)

Figure 1. Key	County	Source	Device	Current Emission Rate (lbs/mmbtu)	Regulatory Threshold	Proposed Requirement (lbs/mmbtu)	2002 Estimated Reduction (tons/day)
1	Manitowoc	Manitowoc Public Utility	Coal Stoker Boiler	0.54	75 mmbtu/hr	Optimization	0.34
			Coal Stoker Boiler	0.53	75 mmbtu/hr	Optimization	0.29
			Coal Stoker Boiler	0.53	75 mmbtu/hr	Optimization	0.21
			Coal Fluidized Boiler	0.11	100 mmbtu/hr	0.20	-
2		Rockwell Lime	Lime Kiln	0.14	75 mmbtu/hr	Optimization	0.06
3	Sheboygan	Kohler	Natural Gas Boiler	0.14	75 mmbtu/hr	Optimization	0.01
4		Plastics Engineering	Natural Gas Boiler	0.14	75 mmbtu/hr	Optimization	0.01
5		ANR Pipeline	IC Engine	1.8 gr/hp	2000 hp	6.0 gr/hp	-
6	Washington	WEPCO – Germantown	Combustion Turbine	0.72	50 MW	0.14	0.09
			Combustion Turbine	0.72	50 MW	0.14	0.05
			Combustion Turbine	0.72	50 MW	0.14	0.03
			Combustion Turbine	0.72	50 MW	0.14	0.10
7	Ozaukee	Charter Steel	Metal Working Furnace	0.14	100 mmbtu/hr	0.10	0.03
8	Milwaukee	DOA / UW Milwaukee	Natural Gas Boiler	0.14	75 mmbtu/hr	Optimization	0.01
9		Mid-American Drum	Metal Working Furnace	1.5	100 mmbtu/hr	0.10	1.23
10		Miller Brewing Company	Natural Gas Boiler	0.42	100 mmbtu/hr	0.10	0.12
			Natural Gas Boiler	0.42	100 mmbtu/hr	0.10	0.12
			Natural Gas Boiler	0.42	75 mmbtu/hr	Optimization	0.12
			Natural Gas Boiler	0.42	75 mmbtu/hr	Optimization	0.12
11		Milwaukee Co Power Plant	Coal Stoker Boiler	0.54	75 mmbtu/hr	Optimization	0.18
			Coal Stoker Boiler	0.54	75 mmbtu/hr	Optimization	0.17
			Coal Stoker Boiler	0.54	75 mmbtu/hr	Optimization	0.16
12		Pfister and Vogel Leather	Natural Gas Boiler	0.14	75 mmbtu/hr	Optimization	0.01
13		Wisconsin Paperboard	Natural Gas Boiler	0.35	100 mmbtu/hr	0.10	0.37
14	Racine	Ball & Foster Glass	Glass Furnace	0.93	75 mmbtu/hr	Optimization	0.23
			Glass Furnace	0.93	75 mmbtu/hr	Optimization	0.58
15		Case Corporation	Natural Gas Boiler	0.14	75 mmbtu/hr	Optimization	0.01
16	Kenosha	WEPCO – Paris	Combustion Turbine	0.08	50 MW	0.09	-
			Combustion Turbine	0.08	50 MW	0.09	-
			Combustion Turbine	0.08	50 MW	0.09	-
			Combustion Turbine	0.08	50 MW	0.09	-
	Total	16 Facilities	31 units				4.6

Table 3-3. Analysis of Typical New Sources not Controlled under the existing NSR or PSD programs.

Typical Source	Large Sources not Captured by NSR	Uncontrolled Emission Rate (lbs/mmbtu)	Potential Emitted NOx (tpd)	Proposed Emission Rate	Proposed Potential NOx (tpd)	Potential Reduction (tpd)	Percent Reduction
Distillate Fired Boiler	100 mmbtu/hr	0.23	0.15	0.09	0.07	0.09	61%
Gas Fired Boiler	100 mmbtu/hr	0.20	0.13	0.05	0.03	0.10	75%
Natural Gas Fired Process Heaters, Furnaces, etc	100 mmbtu/hr	0.20	0.14	0.10	0.07	0.07	50%
Asphalt Plants	150 mmbtu/hr	0.29	0.28	0.15	0.15	0.13	48%
Combustion Turbines	25 MW	0.40	0.66	0.14	0.23	0.43	65%
IC Engines	1000 hp	12 gr/bhp	0.16	6.9 gr/bhp	0.09	0.07	43%

Assume 55% capacity utilization

Table 3-4. Analysis of 1999 Permits in 6 Proposed Counties

Source Type	# of Units	Capacity Range
Gas/Oil Boilers	3	< 25 mmbtu/hr
IC Engines	7	150 mmbtu/hr
Asphalt Plants	2	150 mmbtu/hr
Furnaces	3	< 25 mmbtu/hr
Gas Fired Processes	3	< 25 mmbtu/hr
Estimated Total NOx ~ 1 ton per day		

Table 3-5 NR 428 Performance Standards for Existing Sources

Source Category	Applicable Threshold (equal to or greater)	Limitation	Monitoring Requirement
Seasonal Electric Utility System Average Emission Rate			
Electric Utility Boilers	500 mmbtu/hr	2002.....0.33 lbs/mmbtu 2003.....0.31 lbs/mmbtu 2004.....0.30 lbs/mmbtu 2005.....0.29 lbs/mmbtu 2006.....0.29 lbs/mmbtu 2007.....0.28 lbs/mmbtu	Part 75 CEM
Seasonal Emission Limit Requirements (Sources operating < 25 Capacity Factor Exempt)			
Cyclone	100 mmbtu/hr	0.45 lbs/mmbtu	Part 60 or equivalent
Fluidized Bed	100 mmbtu/hr	0.20 lbs/mmbtu	Part 60 or equivalent
Pulverized Coal	100 mmbtu/hr	0.30 lbs/mmbtu	Part 60 or equivalent
Gas Fired Boiler	100 mmbtu/hr	0.10 lbs/mmbtu	Part 60 or equivalent
Oil Fired Boiler	100 mmbtu/hr	Distillate.....0.12 lbs/mmbtu Residual.....0.20 lbs/mmbtu	Part 60 or equivalent
Metal Reheat, Annealing, and Galvanizing Furnaces	100 mmbtu/hr	0.10 lbs/mmbtu	Part 60 or equivalent
Combustion Turbine (No C.F. exemption)	50 MW	Gas: 75 ppm Oil: 110 ppm	Part 60 or equivalent
Reciprocating Engine (No C.F. exemption)	2000 hp	Rich burn .....9.5 gr/bhp Lean burn.....10.0 gr/bhp Distillate fuel.....8.5 gr/bhp Dual fuel.....6.0 gr/bhp	Part 60 or equivalent
Optimization of External Combustion Sources (Capacity Factor < 20% Exempt)*			
Solid Fuel Boilers	75 mmbtu/hr	Combustion Optimization	Continuous Combustion Analyzer
Gas/Oil Fired	75 mmbtu/hr	Combustion Optimization	Continuous Combustion Analyzer
Cement, Lime Kilns, Calciners	75 mmbtu/hr	Combustion Optimization	Continuous Combustion Analyzer
Reheat, Annealing, Galvanizing Furnaces	75 mmbtu/hr	Combustion Optimization	Continuous Combustion Analyzer
Glass Furnaces	75 mmbtu/hr	Combustion Optimization	Continuous Combustion Analyzer

* Includes all sources above this threshold not subject to an emission rate limit
Footnote – All emission limits are an ozone season requirement and based on a 30 day rolling average.

Table 3-6 NR 428 Performance Standards for New Sources

Source Category	Applicable Threshold (equal to or greater unless specified)	Requirement	Monitoring
Solid Fuel Fired Boilers	250 mmbtu/hr	0.15 lbs/mmbtu	Part 60 or equivalent
Solid Fuel Fired Boilers	< 250 mmbtu/hr	0.20 lbs/mmbtu	Part 60 or equivalent
Gaseous / Oil Fired Boilers	25 mmbtu/hr	Gas..... 0.05 lbs/mmbtu Distillate.....0.09 lbs/mmbtu Residual.....0.15 lbs/mmbtu	Part 60 or equivalent
Recovery Boilers	50 mmbtu/hr	0.10 lbs/mmbtu	Part 60 or equivalent
Cement Kilns, Lime Kilns, and Calciners	50 mmbtu/hr	Gas.....0.10 lbs/mmbtu Distillate.....0.12 lbs/mmbtu Residual.....0.20 lbs/mmbtu Solid Fuel.....0.60 lbs/mmbtu	Part 60 or equivalent
Reheat, Annealing, Galvanizing Furnaces	50 mmbtu/hr	0.10 lbs/mmbtu	Part 60 or equivalent
Glass Furnaces	50 mmbtu/hr	4 lbs/ ton pulled glass	Part 60 or equivalent
Asphalt Plants	50 mmbtu/hr	Gas.....0.15 lbs/mmbtu Distillate.....0.20 lbs/mmbtu Residual or Waste Oil..... 0.27 lbs/mmbtu	Part 60 or equivalent
Process Heating Units (Process Heaters, Ovens, Dryers, and other external combustion)	50 mmbtu/hr	Gas.....0.10 lbs/mmbtu Oil.....0.12 lbs/mmbtu	Part 60 or equivalent
Combustion Turbine	85 MW	Gas..... 12 ppmdv (15% O_2) Oil..... 25 ppmdv (15% O_2)	Part 60 or equivalent
Combustion Turbine	40 to 84 MW	Gas..... 9 ppmdv (15% O_2) Oil..... 25 ppmdv (15% O_2)	Part 60 or equivalent
Combustion Turbine	< 40 MW	Gas.....25 ppmdv (15% O_2) Oil.....65 ppmdv (15% O_2)	Part 60 or equivalent
Combined Cycle Turbines	25 MW	Gas..... 3 ppmdv (15% O_2) Oil..... 8 ppmdv (15% O_2)	Part 60 or equivalent
Combined Cycle Turbine	< 25MW	Gas..... 14 ppmdv (15% O_2) Oil.....25 ppmdv (15% O_2)	Part 60 or equivalent
Reciprocating Engines	1000 hp	Compression.....6.9 gram/bhp Spark Ignition.....4.0 gram/bhp	Part 60 or equivalent

Footnote - Performance standards do not supersede existing NSR or PSD program requirements.
Footnote – All emission limits are an annual requirement and based on a 30 day rolling average.

4. Stationary Source VOC Controls in Wisconsin

Additional VOC RACT Controls

The Clean Air Act requires that states apply Reasonably Available Control Technology (RACT) for volatile organic compound (VOC) emissions from major sources located in moderate or worse ozone non-attainment areas. RACT is defined as the lowest emission rate required of a source considering technological and economic feasibility. This SIP revision component addresses these RACT deficiencies for three source categories. In 1999, EPA identified non-CTG VOC RACT rules for three source categories as deficiencies in the ozone SIP.

After the 1990 CAA amendments, EPA planned on issuing Control Technical Guidance (CTG) to be used in post-1990 development of CTG VOC RACT rules for thirteen identified source categories. However, by 1994, EPA had changed it's position deciding that non-CTG VOC RACT rules should be developed by the states to address these thirteen source categories. In 1994, WDNR submitted information to USEPA identifying Wisconsin sources in the thirteen source categories. Major sources were contained in the following source categories: industrial cleaning operations, ink manufacturing operations and plastic parts coating operations.

Industrial cleaning operations and ink manufacturing operations have been addressed through the development of a rule (part of Order AM-27-00) and an administrative order respectively. Both are being submitted as SIP revisions. However, following the submittal of ink manufacturing administrative order, the impacted company informed the WIDNR that all ink manufacturing operations had been discontinued. The company has subsequently indicated that the property will be listed for sale.

Currently, a plastic parts coating operations rule (Order AM-43-00) is being developed and remains the only deficiency in the one-hour ozone attainment plan and the only outstanding requirement for the comprehensive one-hour ozone attainment demonstration due in December 2000.

The industrial cleaning operations rule establishes reasonably available control technology (RACT) for volatile organic compounds (VOC) emissions generated by industrial cleaning operations at major sources in the counties of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha. The industrial cleaning operations rule will be implemented by using emission restrictions, operational practices, control systems and recordkeeping requirements. In this case, emissions restrictions are essentially equivalent to VOC content limitations for industrial cleaning solvents. These limitations will encourage material substitutions toward industrial cleaning solvents with lower VOC contents. Since the use of industrial cleaning solvent involves many different industry sectors, a wide range of major sources will be impacted. When broken down by Standard Industrial Classification (SIC) code groups, these industry sectors include fabricated metal products, except machinery and transportation equipment; printing, publishing and allied industries; industrial and commercial machinery and computer equipment; furniture and fixtures; and electronic and other electrical equipment and components, except computer equipment.

A proposed plastic parts coating operations rule establishes reasonably available control technology (RACT) for volatile organic compounds (VOC) emissions generated by plastic parts coating operations at major sources in the counties of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha. In a preliminary analysis in 1996, only one major VOC source with plastic parts coating operations was identified. Consequently, the requirement could have been satisfied by an administrative order. However, a recent assessment using the 1998 Air Emissions Inventory identified more major VOC sources in Southeastern Wisconsin, which necessitated the development of a VOC RACT rule.

The plastic parts coating rule will be implemented by using emission restrictions, control systems and recordkeeping requirements. In this case, emissions restrictions are essentially equivalent to VOC content limitations for plastic parts coatings. These limitations will encourage material substitutions toward plastic parts coatings with lower VOC contents. The proposed rule will regulate plastic parts coating at major sources in three broad industry segments: automotive/transportation, business machines and miscellaneous. The automotive /transportation plastic parts category includes the interior and exterior components of automobiles, trucks, tractors, lawnmowers and other equipment which may be drawn or is capable of being driven on a roadway. The business machine plastic parts category includes the plastic housings and other exterior plastic components of electronic office equipment and of medical and musical equipment, including, but not limited to the following: computers, monitors, printers and keyboards, facsimile machines, copiers, microfiche readers, cellular and standard phones, and pencil sharpeners. This category excludes internal electrical components of business machines. The miscellaneous plastic parts category includes items such as signs, weather stripping and shutters.

The draft plastic parts coating operations rule has been authorized for public hearing by the Natural Resources Board. That hearing has been scheduled for January 31, 2001. The Department anticipates finalizing the rule and attaining Board approval by late Spring 2001, prior to this Attainment Demonstration SIP approval by EPA. The public hearing notice and the draft rule language are attached as a technical appendix.

Excess VOC Emissions Fee

This plan includes revisions to s. NR 410.06, Wis. Adm. Code, to satisfy a provision of the Clean Air Act that requires major VOC sources, under certain conditions, to pay an excess emissions fee of $5000/ton of VOC. The fee would apply to the portion of their emissions beyond 80% of an annual 2007 baseline level as defined in the rule. The fee applies to sources with more than 25 tons of VOC emissions per year located in the six severe nonattainment counties of Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha. The fee activates if the area remains in nonattainment for ozone in 2008 and thereafter. The fee is incorporated into the emissions inventory fee structure and would not apply in 2008 if the area receives a formal one-year extension to reach attainment.

5. Mobile Source NOx Controls

In order for EPA to approve, or conditionally approve, an attainment demonstration SIP, Wisconsin is required to select the control strategies that are used in the air quality modeling analyses that form the basis for the attainment demonstration. This includes adopted and submitted rules for all control measures previously required under the CAA for severe ozone non-attainment areas.

Controlling NOx from Motor Vehicles
Under this SIP revision, NOx limits previously suspended for pass/fail purposes in the I/M program become effective again on May 1, 2001. Wisconsin's motor vehicle inspection program currently tests for both VOC and NOx emissions. However, before the recent adoption of AM-27-00, there were not enforceable limits on NOx emissions (NOx cutpoints). Prior NOx cutpoints were suspended in December 1995 when the ozone standard attainment strategy was refocused exclusively on VOC control and the state received a waiver to the enhanced test requirement for NOx.

The potential to re-implement NOx cutpoints had been the subject of extensive stakeholder dialogue since 1998 when the option was evaluated for inclusion in the plan required by EPA's NOx SIP Call. Repairs needed to meet NOx cutpoints have been found to be highly cost-effective in relation to other potential NOx and VOC controls for the mobile sector and are projected to be beneficial in regard to meeting progress requirements in attaining the ozone standard. Through the public hearings and various stakeholder sessions the Department solicited comment on the enforcement of NOx cutpoints. A vast majority of oral and written comments supported implementing pass/fail cutpoints for NOx in the vehicle emission testing program starting in May 1, 2001.

NOx cutpoints will result in a reduction of approximately 13 ½ tons per day of NOx. This is approximately 31% of the 43.4 ton per day reduction of NOx required between 1999 and 2002 to assure the rate-of-progress emission budget is met. Creditable NOx reductions from NOx cutpoints will decline to approximately 7 tons per day in 2007 due to the introduction of vehicles with lower emissions and the testing of newer vehicles through on-board diagnostic (OBD) systems. However, the cutpoints are one of the most viable NOx reduction options available for 2002 ROP. Evaluations during the comment period suggested that other stationary or mobile sector control efforts for 2002 would be difficult and expensive.

6. Rate-of-Progress Emission Reduction for 2002-2007

Introduction to the Focused Rate-of-Progress Plan (SIP Revision)

Options for achieving the 2002, 2005 and 2007 ROP milestones were considered through the public hearing and public comment process. The combined NOx and VOC control program selected for adoption in this rule package focuses on a subset of control strategies in the draft plan:

1. NOx emission reduction optimization assessments or NOx emission limits for 48 sources at 21 facilities in the eight counties starting at the end of 2002

2. Gradually phasing in more stringent control objectives for the largest coal electric facilities through the 2007 ozone season

3. Enforcing NOx cutpoints as part of the tailpipe test in the vehicle I/M program

4. Establishing NOx emission performance limits for new sources in several categories of combustion sources

5. Filling identified gaps in the VOC RACT program for major sources.

The final plan contains a longer window (8 to 12 months) to accomplish the required NOx controls to meet the 2002 ROP budgets, based on EPA guidance covering when ROP controls have to actually be in place. The magnitude of the NOx (and VOC) reductions needed in 2003 required the inclusion of multiple measures and multiple sources in the total emission control effort. Such a broad and balanced effort was based as much on the short timeframe for implementing controls as on the final NOx control level needed.

The plan includes the I/M cutpoint component partly because NOx test equipment is already in place and a NOx test (but not the test pass/fail decision) is already built into the program. The final plan excludes initially proposed burner tune-up requirements, a simplification that resulted in a modest emission reduction loss from the draft plan, but which precludes the need to include an additional 160 units with low net emission levels in the final NOx control program.

A required ROP contingency remains built into the core ROP program. However, guidance allows the contingency portion of the control effort to be effective one ozone season after each milestone year. Hence, for the electric generating units covered by the annually declining NOx emission rate structure, the 2002 contingency target is met by having a lowered rate set for 2003. In the overall control plan, this has the effect of slightly increasing the allowable emission budget at each milestone, compared to the draft plan, for each year of concern until 2007. This still provides a "sliding" 3% contingency over the period until 2007.

The proposed plan reflects an achievable and cost-efficient pathway to meeting ROP relying particularly on readily available and fuel-saving combustion improvement techniques for the early milestone years (2002-2003). Pursuit of this option, rather than a higher control level for fewer sources, precludes the need for hasty investment in more costly add-on NOx control technologies.

Rate-of-Progress Plan – Assumptions, Calculations and Summary Tables on Progress Budgets and Control Impact Projections

Areas designated as nonattainment for the 1-hour ozone standard are required to reduce VOC emissions 3% per year from "adjusted" 1990 levels until the areas attain the ozone standard and get redesignated.

For severe ozone areas, Rate of Progress (ROP) plans are required to meet milestone years in 1996 (15%), 1999 (24%), 2002 (33%), 2005 (42%) and 2007 (48%). For each milestone plan, an additional 3% reduction must be identified as a contingency measure. The first ROP SIP revision was submitted in late 1993. The 1999 ROP SIP revision was submitted in 1997. The SIP revision for the remaining ROP milestones is due as part of the attainment demonstration.

For areas where NOx control is necessary or appropriate as a strategy to reduce ozone concentrations NOx reductions may be substituted for VOC reductions. EPA guidance allows NOx reductions as a substitute for VOC reductions for ROP milestones beginning in 1999.

Wisconsin's ROP SIP revisions for 1996 and 1999 used only VOC emission reductions. Reductions in VOC emissions were believed to be the most appropriate means to improve ozone air quality. The 1996 ROP Plan ("15% Plan") for SE Wisconsin primarily relied on the CAA control measures to reach a 15% VOC reduction. Federal programs to reduce VOC emissions included reformulated gasoline, clean fuel fleets, and revised motor vehicle emission standards. State plan elements included VOC RACT for major sources, enhancement to the I/M program, Stage 2 gasoline fueling vapor recovery, solvent limits for various coatings applications and a handful of "voluntary" industrial solvent regulation enhancements. Emission reduction elements from the 1996 ROP and additional emission reductions from federal programs, when projected, suggested that no additional Wisconsin-specific VOC reductions were needed to meet the1999 ROP requirement.

VOC emission reductions are expected to continue, but these will not be sufficient, by themselves, to meet future ROP requirements. NOx emission reductions will be needed to cover ROP and contingency requirements. The EPA has developed guidance on NOx emission reduction substitution in ROP plans. This guidance requires a technical demonstration to support the claim that NOx emission reductions are effective. NOx emission reductions may be substituted for VOC emission reductions so long as the VOC percentage reduction from the 1990 VOC adjusted emissions baseline plus the NOx percentage reduction from the 1990 NOx adjusted emissions baseline, when added together, are greater than or equal to the required ROP percentage reduction.

To fulfill the contingency requirement, the final rule contains an additional 3% emission reduction target that is deferred by one year. The ROP emission reduction goal for 2002 is 33%. In 2003 the ROP plus contingency emission reduction goal is 36%. The ROP emission reduction goal for 2005 is 42%. In 2006 the ROP plus contingency emission reduction goal is 45%. From 2007 on emission reductions will achieve at least a 51% reduction. The 51% emission reduction will satisfy the 2007 48% ROP requirement plus the 3% contingency requirement.

Figure 6-1 reflects the 2002-2007 progress-based proportionate emission reduction goal for the plan. Ongoing fleet turnover from the national low emission vehicle (NLEV) program and the Tier 2/low sulfur gasoline motor vehicle rule and a steady lowering of the EGU NOx emission rate between 2002 and 2007 will achieve the emission reductions in annual steps rather than in discreet three year steps. The figure includes the contingent reductions for 2003, 2006 and 2007. The proportion of VOC reductions to NOx reductions to achieve ROP is shown in **Figure 6-2**.

Figure 6-1

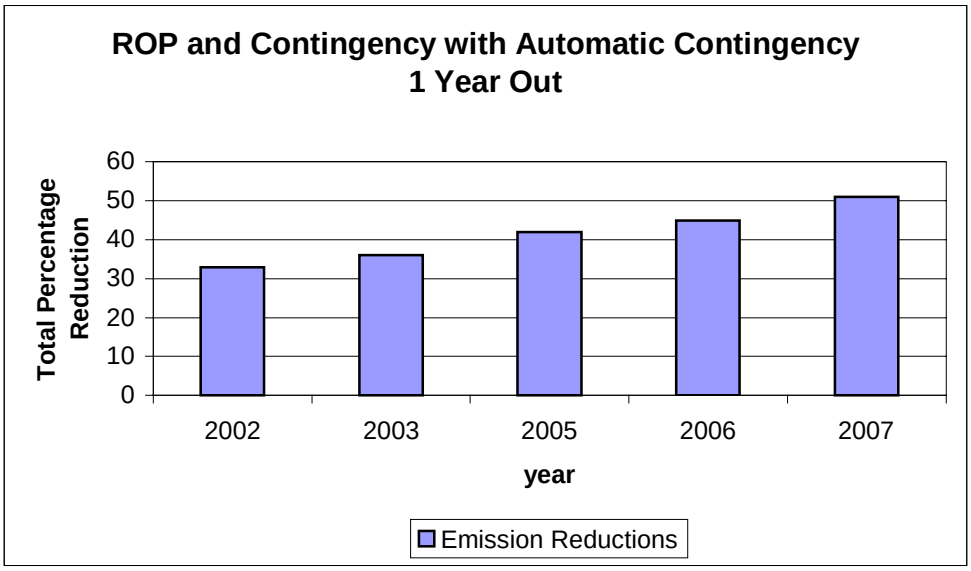
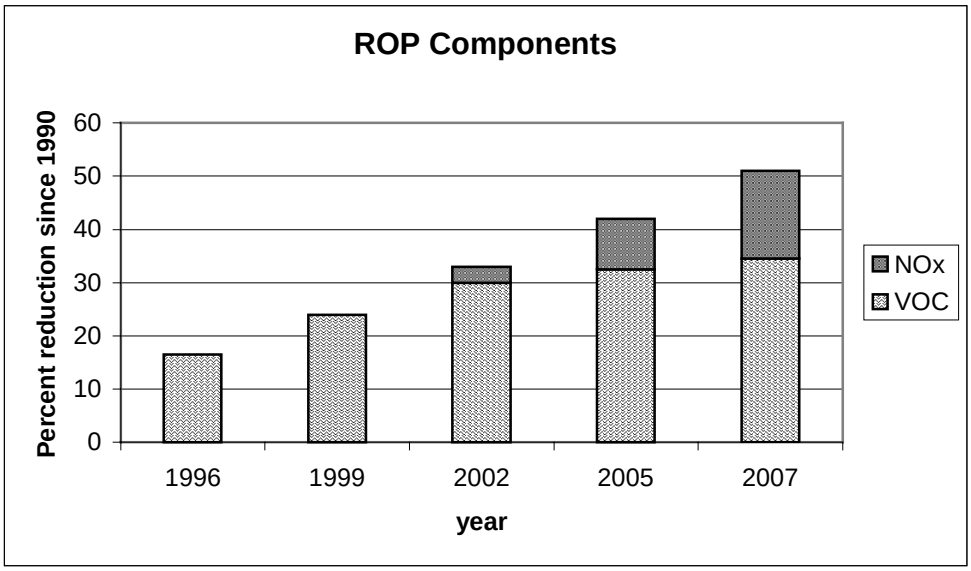


Figure 6-2



Sector-Based Rate of Progress Assumptions

For purposes of this Plan, anthropogenic emissions are divided into 4 sectors for both VOCs and NOx. These sectors are On Highway Mobile Sources, Area Sources, Non-Road Mobile Sources, and Stationary/Point Sources. The assumptions made regarding forecasts for future year emissions are as follows:

Area Sources:

The area source, future year emissions for the ROP demonstration years of 2002, 2005, and 2007 are from the LADCO attainment demonstration modeling. This modeling includes growth factors supplied by the states and accepted by the LADCO project team. The growth rates rely on EGAS and state specific factors. The state specific growth factors are important in areas where the EGAS growth rates were determined to be inappropriate. Examples of inappropriate EGAS growth rates include categories where emissions were determined on a per employee basis but the EGAS growth rate was based on some other

factor. Another example of an inappropriate EGAS growth rate was in agricultural chemicals where EGAS used a very small survey of farms in California to estimate a national growth rate.

New control factors since the 15% plan have been used in the LADCO emissions estimates. These include all appropriate Federal measures including the national AIM and consumer and commercial products rules.

Although they are considered by Wisconsin to be Mobile Source emissions, Stage 2 vapor recovery and the residual emissions are reported in the area source category.

Non-Road Mobile Sources:
The non-road mobile sources, future year emissions for the ROP demonstration years of 2002, 2005, and 2007 are from the LADCO attainment demonstration modeling. This modeling includes growth factors supplied by the states and accepted by the LADCO project team.

New control factors since the 15% plan have been used in the LADCO emissions estimates. These include all appropriate Federal measures including the national small engine rules and creditable VOC reductions from lower volatility in RFG compared to conventional gasoline.

On-Highway Mobile Sources:
Mobile Source emissions used in the ROP demonstration years are those agreed to during the conformity discussions between Wisconsin DNR, the non-attainment area MPOs (Bay Lakes Regional Planning Commission and the Southeast Wisconsin Regional Planning Commission), and the Wisconsin Department of Transportation (WISDOT). Many stakeholders participated in this process. MOBILE5a was used to calculate emissions with off-model adjustments for Phase 2 Reformulated Gasoline (NOx only), Tier 2 standards/low sulfur gasoline, and the excess emissions effect of heavy-duty diesel defeat devices. Fleet turnover for emission reductions prior to the 1990 amendments was performed to remove non-creditable emission reductions. RVP adjustments were corrected to remove these non-creditable emission reductions.

The growth rates used for VMT were the MPO's high growth scenario for the six severe counties and the Wisconsin Department of Transportation's VMT forecast for the other two non-attainment counties. In addition, a buffer of an additional 7.5% was added to the VMT forecast for all 8 counties at each of the ROP demonstration years (*a single buffer carried forward*). The buffer was incorporated to minimize the prospect of a conformity failure should unanticipated economic events lead to additional, unexpected VMT growth. In addition, the speed profiles for the fleetwide VMT were updated from those used in the 15% Plan and the market penetration of light duty trucks (pickups, sport utilities, and minivans) was increased to account for the recent major trend of increasing ownership fraction of those vehicles within the fleet.

The following mobile sector programs and assumptions were part of the emissions modeling:

1. NOx emissions were increased in all 8 counties to account for residual emissions increases after a 90% retrofit of the defeat devices from the HDD consent decree.

2. Phase 2 RFG was assumed in the 6 Severe Non-attainment counties in 2002, 2005, and 2007.

3. An appropriate mix of Tier 0, Tier 1, and NLEV vehicles were used in 2002, 2005, and 2007 based on local data and forecasts. The default MOBILE5 distributions were not used.

4. For 2005 and 2007 low sulfur gasoline was used in all 8 counties. In the six severe counties only the incremental benefit between low sulfur gasoline and Phase 2 RFG was considered.

5. For 2005 and 2007 Tier 2 vehicles were added to the fleet at expected market penetration and use.

6. The I/M program in 7 counties (Six Severe plus Sheboygan) was modified in two substantial ways. First, OBD tests are used for MY 1996 and newer vehicles. Second, vehicles with NOx test emissions greater than the NOx cutpoints are now failed and repaired. Consistent with EPA policy, emission reductions from the I/M program are assumed in the ROP years as though the fleet had completed the full 2 year cycle for enforcement of cutpoints by the end of the calendar year when the cutpoints are implemented.

7. The Stage 2 vapor recovery emissions and controls are included in the area source emissions to be consistent with reporting in the 15% plan.

Section 7 of this SIP revision further discusses transportation conformity issues and related budgets. **Technical Appendix 15** provides the details of the highway emissions modeling, including the MOBILE5 input and output files and the emission calculations, used to support the ROP plans and conformity budgets.

Stationary/Point Sources:
VOC and NOx stationary (point) sources behave very differently and are treated differently in the ROP calculations.

POINT SOURCE VOC EMISSIONS
VOC emissions in the nonattainment areas (and throughout the state) have shown a consistent and persistent decrease since 1995. Some of this is due to environmental rules such as RACT and anticipated MACT. Some of this is due to changing business practices and some of this is due to toxic concerns regarding employee health.

This plan has only small changes in emissions for this sector compared to the emissions accounted for in the 1996 15% Plan. The state has adopted/is adopting two new rules and one administrative order that affect three major source non-CTG RACT categories. These are Industrial Cleanup Solvents, Plastics Parts Coating, and Ink Manufacturing. In addition, Wisconsin is adopting a rule change to the way emissions fees are calculated that creates a permanent economic incentive to reduce emissions and to maintain emissions at a lower level once they are reduced. A firm that reduced emissions receives a rebate on their emissions fee. A source that increases emissions shall pay a double fee when emissions in the current year increase above the sources average emissions in the previous 5 years.

While Wisconsin is not growing emissions from the minor adjustment from the 1996 Plan, the emissions used in the future ROP milepost years are approximately 25% greater than emission currently being reported on the annual certified emissions reports from sources in the 8 counties.

POINT SOURCE NOx EMISSIONS
NOx emissions have shown growth since the 1996 inventory. Most of the stationary source NOx emissions are from EGUs. The following steps were completed as part of the ROP calculations.

CEM / Coal Correction. Wisconsin Electric provided information to the Department that the 1990 NOx emissions were greater that those in the 1990 periodic inventory. The old method of calculating NOx emissions based on coal samples was flawed. The correction increased emissions approximately 10 tons per day. EPA and the electric power industry have corrected a statistical flaw in the way NOx was reported by CEMs. Since the Department used this benchmark to forecast NOx growth, the 1995 average NOx emissions were corrected in the manner supported by EPA.

Emissions Growth. Emissions in 2002, 2005, and 2007 for EGUs were grown at a higher rate than that used by EPA in the NOx SIP call. The growth rate used by the Department is that used by the Wisconsin

Public Service Commission in their forecast and plan for future electric generation. In addition a peak generation correction of 10 tons per day was added to assure that the average emission rate used in this plan would yield a daily emissions rate that is consistent with high ozone days. For non-EGU stationary source NOx emissions, the NOx SIP call growth rate was used.

Emissions Reductions. For EGUs, meeting an ozone season 30-day rolling average emission rate is used to calculate emission reductions for each year from 2002 through 2007. For existing non EGU NOx sources the rule affects only 16 operating sources and these sources emission reductions were calculated based on 100% rule penetration, rule effectiveness, and control efficiency. The 100% number was used for all three values as there are very few sources and the emission reduction technology is integral to the operation of the facilities (new boilers, for example). For new sources the emission reduction forecast is based on an analysis of recent permits and the difference in emissions that would have been observed had these sources been required to operate with the more restrictive emissions limits.

Summary of the Post-2000 NOx-based Progress Plans

Tables 6-1 through **6-6** illustrate the proposed VOC and NOx emission reductions necessary to meet the 2002, 2005 and 2007 ROP milestones. They show estimates of the actual VOC and NOx reductions from the adjusted 1990 baselines achieved through continued implementation of the 1996 and 1999 plans.

The area proposed for ROP emission reductions are the 8 counties of Manitowoc, Sheboygan, Ozaukee, Washington, Milwaukee, Waukesha, Racine, and Kenosha. VOC emissions for 2002, 2005 and 2007 are higher than prior estimates because of new information on activity levels and creditability of emission reductions. The highway mobile sources VOC budget is slightly smaller after adjustments for vehicle speeds were incorporated. Under this proposal, the additional emission reductions needed for future ROP milestones (including the 3% contingency) will be achieved by reducing NOx emissions.

Table 6-1 Attainment Demonstration ROP Budgets – 2002, 2005, 2007 – Ozone Season Daily

% Reduction Relative to "1990 Adjusted Baseline"	2002 ("33%")		2005 ("42%")		2007 ("51%")	
	VOC 330 tpd	NOx 356 tpd	VOC 329 tpd	NOx 354 tpd	VOC 328 tpd	NOx 353 tpd
8 County Budget	230 tpd	346 tpd	221 tpd	321 tpd	214 tpd	295 tpd
Creditable Reduction	30.3%	2.7%	32.8%	9.2%	34.8%	16.2%

Table 6-2 Phase 3 Attainment Demonstration – Mobile Sector Budgets *

Counties with Ozone Attainment or Maintenance Conformity Budgets	2002		2005		2007	
	VOC (TPD)	NOx (TPD)	VOC (TPD)	NOx (TPD)	VOC (TPD)	NOx (TPD)
Milwaukee, Racine, Kenosha, Waukesha, Washington, & Ozaukee	43.5	103.5	36.7	84.1	32.2	71.4
Sheboygan	4.5	9.4	3.7	7.4	3.3	6.4
Manitowoc	5.4	10.0	5.2	8.8	5.2	8.3
TOTAL	53.4	122.9	45.6	100.3	40.7	86.1

** For detailed conformity budget discussion and tables, see separate conformity budget section*

Table 6-3 2002 - Total 33% Rate-of-Progress Requirement

2002 Planning Objective = **2.7% NOx and 30.3% VOC** Reduction
NOx Reduction Target = 43.4 Tons per Ozone Day for 8 Counties

Control Measures Evaluated for Progress 2002:

Sector – Measure	Tons Potential Impact 2002
Mobile - I/M Cutpoints on May 1, 2001	13.6
Performance Standards for Existing Facilities	4.6
Utility – System Emission Rate 0.33 Assumes both I/M Cutpoints and Perf. Standards, Net of Growth	25
Performance Standards for New Sources Reduction from Growth	.2

Table 6-4 2005 - Total 42% Rate-of-Progress Requirement

2005 Planning Objective = **9.2% NOx and 32.8% VOC** Reduction
NOx Reduction Target = 47.9 Tons per Ozone Day for 8 Counties

Control Measures Evaluated for Progress 2005:

Sector – Measure	Tons Potential Impact 2005
Mobile - I/M Cutpoints on May 1, 2001	10.1
Performance Standards for Existing Facilities	4.6
Utility – System Emission Rate 0.29 Assumes both I/M Cutpoints and Perf. Standards	32
Performance Standards for New Sources	1.2

Table 6-5 2007 - Total 51% Rate-of-Progress Requirement

2007 Planning Objective = **16.2% NOx and 34.8% VOC** Reduction
NOx Reduction Target = 61.7 Tons per Ozone Day for 8 Counties

Control Measures Evaluated for Progress 2007:

Sector – Measure	Tons Potential Impact 2007
Mobile - I/M Cutpoints on May 1, 2001	6.8
Performance Standards for Existing Facilities	4.6
Utility – System Emission Rate 0.28 Assumes both I/M Cutpoints and Perf. Standards	48.6
Performance Standards for New Sources	1.7

Table 6-6 2002 - 2007 Emissions Forecasts and ROP Budgets by Sector

NOx Tons per Day Emissions

2002 Base NOx Emissions Forecast (no NOx reduction for ROP)

	Highway	Non-Road	Area	sml egu & Industrial	LARGE EGU	TOTAL
6 Co Severe Area	116.2	44	32	13	105	310.2
Sheboygan Co	10.3	5	2.3	1	42	60.6
Manitowoc Co	10	4	1.7	3	0	18.7
8 County Total	136.5	53	36	17	147	389.5

2002 Net NOx Emissions meeting ROP

	Highway	Non-Road	Area	sml egu & Industrial	LARGE EGU	TOTAL
6 Co Severe Area	103.5	44	32	9	91.2	279.7
Sheboygan Co	9.4	5	2.3	0.9	30.5	48.1
Manitowoc Co	10	4	1.7	2.5	0	18.2
8 County Total	122.9	53	36	12.4	121.7	346

Allowable = 346

NOx Tons per Day Emissions

2005 Base NOx Emissions Forecast (no NOx reduction for ROP)

	Highway	Non-Road	Area	sml egu & Industrial	LARGE EGU	TOTAL
6 Co Severe Area	93.5	42.3	30.2	15	110	291.1
Sheboygan Co	8.1	4.8	2.2	1	44	60.1
Manitowoc Co	8.8	3.8	1.6	3.5	0	17.7
8 County Total	110.4	51	34	19.5	154	368.9

2005 Net NOx Emissions meeting ROP

	Highway	Non-Road	Area	sml egu & Industrial	LARGE EGU	TOTAL
6 Co Severe Area	84.1	42.3	30.2	9.5	91.4	257.6
Sheboygan Co	7.4	4.8	2.2	1.3	30.6	46.3
Manitowoc Co	8.8	3.8	1.6	2.9	0	17.1
8 County Total	100.3	51	34	13.7	122	321.0

Allowable = 321

NOx Tons per Day Emissions

2007 Base NOx Emissions Forecast (no NOx reduction for ROP)

	Highway	Non-Road	Area	sml egu & Industrial	LARGE EGU	TOTAL
6 Co Severe Area	77.8	41.5	30.2	16	114	279.5
Sheboygan Co	6.8	4.7	2.2	1.2	45	59.9
Manitowoc Co	8.3	3.8	1.6	3.6	0	17.3
8 County Total	92.9	50	34	20.8	159	356.7

2007 NOx Emissions to meet ROP

	Highway	Non-Road	Area	sml egu & Industrial	LARGE EGU	TOTAL
6 Co Severe Area	71.4	41.5	30.2	10.2	82.8	236.1
Sheboygan Co	6.4	4.7	2.2	1.2	27.6	42.1
Manitowoc Co	8.3	3.8	1.6	3.1	0	16.8
8 County Total	86.1	50	34	14.5	110.4	295.0

Allowable = 295

Table 6-7

FORECAST VOC TONS PER DAY

8 County Nonattainment Area

year	Highway	Non-Road	Area	Point	TOTAL
2002	54	38	93	45	230
2005	46	35	95	45	221
2007	41	32	96	45	214

An attached **Technical Appendix 16** describes additional details of the Rate-of-Progress SIP Revision.

7. Mobile Sector Budgets Revision

NOx and VOC Budgets for Transportation Conformity based on the final ROP

The Clean Air Act (CAA) requires a showing that regional transportation plans, and Transportation Improvement Programs, conform to the emissions budgets for the mobile sector for the milestone years of 2002, 2005 and 2007. These emissions budgets are required to be included in this plan. The conformity assessment follows a coordinated, consultative process involving the Departments of Transportation and Natural Resources, the regional planning entities for areas with air quality problems, EPA and the Federal Highway Administration.

Conformity budgets must address both VOC and NOx emissions for all ozone nonattainment areas designated under the CAA. These budgets need to reflect consistent planning assumptions between the Air Quality and Transportation planning processes and reflect the impact of emission forecasts and emission control programs incorporated into ROP plans and attainment demonstrations. The Mobile Sector Budgets for 2002, 2005 and 2007, incorporated in this plan are shown in **Table 7-1**.

The emission levels in **Table 7-1** reflect those used in the attainment demonstration modeling and are identical to the ROP budgets. Extensive dialogue with stakeholders earlier in the process refined the mobile sector projections. The refinements reflect existing and proposed mobile sector emission control components and updated speed profiles for the milestone years of 2002, 2005 and 2007. The revised budgets and projections in the plan will replace the budgets and projections that are in the Phase 2 Attainment Demonstration once these final (Phase 3) Attainment Demonstration budgets receive a positive adequacy determination in accordance with EPA guidance of May 14, 1999 as part of the SIP review and approval process.

Table 7-1 – Mobile Sector ROP Budgets for the Phase 3 Attainment Demonstration

Counties with Ozone Attainment or Maintenance Conformity Budgets	2002		2005		2007	
	VOC (TPD)	NOx (TPD)	VOC (TPD)	NOx (TPD)	VOC (TPD)	NOx (TPD)
Milwaukee, Racine, Kenosha, Waukesha, Washington, & Ozaukee	43.5	103.5	36.7	84.1	32.2	71.4
Sheboygan	4.5	9.4	3.7	7.4	3.3	6.4
Manitowoc	5.4	10.0	5.2	8.8	5.2	8.3
TOTAL	53.4	122.9	45.6	100.3	40.7	86.1

Updating the Mobile Sector Budgets – Background on the Phase 3 Budget refinement from the Phase 2 levels

On February 4, 2000, the Department of Natural Resources held a public hearing in Milwaukee to solicit public comments on two proposed motor vehicle emission budgets (MVEB) alternatives to be used as part of the Phase II plan update. These MVEB alternatives apply to the six county area (Milwaukee, Racine, Kenosha, Waukesha, Washington and Ozaukee). One MVEB alternative consisted of 31.98 tons of volatile organic compounds (VOC) / summer weekday and 78.53 tons of nitrogen oxides (NOx) / summer weekday; and the other alternative budget consisted of 32.14 VOC tons / summer weekday and 85.51 NOx tons / summer weekday. The first budgets were based on SEWRPC forecasts that VMT would increase in their six county region (excluding Walworth county) from 37,095,100 miles per average weekday in 1995 to 45,881,900 miles per average weekday in 2007, but did not include the emission reductions associated with Tier 2 vehicle standard or low sulfur gasoline regulations. The projected 2007 traffic volumes were based upon an application of SEWRPC's travel simulation model to

a high growth future in the region with respect to changes in population, households and employment. That VMT forecast assumed implementation of the regional land use and transportation system plans, with projected growth rates of 2% per year between 1995 and 2000, 1.7% per year between 2001 and 2007. The alternate budgets (32.14 tons VOC and 85.51 tons NOx) were back-calculated from the prior Lake Michigan Air Director's Consortium (LADCO) modeling and are consistent with early iterations of the control strategy modeling being pursued at the time to develop an attainment demonstration.

Pursuant to significant stakeholder and EPA comment regarding elements that needed to be included and appropriateness of assumptions for attainment modeling, the state submitted and EPA found adequate a MVEB for each of the three Lake Michigan area ozone attainment demonstrations for transportation conformity purposes. As a result of the EPA finding, effective July 5, 2000, the MVEB (31.98 tons of VOC / summer weekday and 78.53 tons of NOx / summer weekday) from the Wisconsin Phase II ozone attainment demonstrations could be used for future transportation conformity determinations. SEWRPC later used these MVEB for the assessment of conformity of the year 2000 – 2002 Transportation Improvement Program and year 2020 Regional Transportation System Plan with respect to the Wisconsin SIP. Section 93.104(e)(2) of the conformity rule requires conformity of the transportation plan and transportation improvement program (TIP) be re-determined within 18 months following the date of a State's initial submission of the Phase 3 Attainment SIP that establishes an updated MVEB.

Extensive dialogue with stakeholders during the Phase 3 plan drafting process refined the mobile sector projections. The refinements reflect existing and proposed mobile sector emission control components and updated speed profiles to use for the milestone years of 2002, 2005, and 2007. The Department met with transportation stakeholders, (WisDOT, SEWRPC, BLRPC and FHWA staff and management representatives) and ensured that the motor vehicle emissions budgets for counties included in the Phase 3 SIP, as proposed at the June 27 – 29 public hearings, were calculated upon high economic growth in the six county area where a high versus low (or moderate) transportation planning growth assessment had been pursued. In addition to the higher growth assumption, a 7.5 percent emissions growth increment was incorporated in the budgets to help prevent transportation conformity assessment failure during the plan horizon.

Population projections were derived from 1998 Department of Administration calculations for Manitowoc and Sheboygan and from SEWRPC projections for the six county area. The 2007 VMT projections were obtained from the WisDOT and SEWRPC and are identical to the forecasts used for EPA's NOx SIP Call. MOBILE 5a emission factors were adjusted based on new Tier 2/Low Sulfur Gasoline regulations, new NOx credits guidance for Phase 2 Reformulated Gasoline (from MOBILE 5b), the excess emissions effect of diesel defeat devices and estimates of impacts of the related EPA consent decree, and revised evaporative emission credit for gas cap only inspection in the Inspection/Maintenance program.

Commitment to Revise the Motor Vehicle Emission Budgets based on MOBILE 6

In proposing the adequacy of the Phase 2 budgets, EPA make a contingent requirement that where a Phase 3 SIP includes the benefits of EPA's Tier 2/Low Sulfur Gasoline program, the State must also commit to revise the Phase 3 MVEB within one year after the release of the MOBILE 6 model. The Department knows the estimates of Tier 2/Low Sulfur Gasoline benefits in the Phase III SIPs are interim approximations and an accurate estimation requires the use of the MOBILE 6 model. The Department has committed to recalculate the budgets using MOBILE 6 in a timely fashion. Notice of availability in the Federal Register will announce the formal release of MOBILE 6 and the date of that Federal Register notice will constitute "release of MOBILE 6" for the purposes of the commitments. We understand that this MVEB revision based on the final MOBILE 6 will not trigger a separate 18 month conformity assessment clock.

Ongoing Transportation Control Measures (TCMs) & Transportation Demand Management Components of the Ozone Attainment and Progress SIP Revisions

The Clean Air Act Amendments of 1990 (CAAA) require severe ozone nonattainment areas to evaluate and consider TCMs for SIP inclusion that might be needed to meet attainment requirements. Section 108(f), of the CAAA provides a comprehensive list of 16 TCMs Wisconsin should consider in its evaluation. There was an additional requirement that areas evaluate the combined impact of travel growth, federally mandated mobile source requirements (including Employee Commute Options programs (ECO)), and fleet turnover on mobile source emissions. The requirement specified that mobile source emissions could not show an increase before the 2007 attainment date for southeastern Wisconsin. If the estimate indicated that there would be an increase in emissions, a nonattainment area was required to implement additional TCMs or other technology-based mobile source control activities to ensure that an increase in mobile source emissions would not take place prior to attainment – presumably through 2007 at the earliest.

In addition, the CAA required Wisconsin and other states with severe ozone air pollution problems to implement ECO programs as part of their plan to achieve better air quality. The ECO programs stipulated that businesses with 100 or more employees create plans that would encourage employees to share rides, take a bus, a bike, or walk to work rather than drive to work alone. In Wisconsin, the overall goal of the ECO program when initially implemented was to reduce volatile organic compound emissions by almost 2 tons per day.

Responding to a change in federal law, Wisconsin suspended the state's ECO rules in 1996 and announced the formation of a new voluntary program called the Wisconsin Partners for Clean Air. After that time, ROP plans and budgets have been adjusted to account for the program change. A full description of the *Wisconsin Partners for Clean Air Program* is part of prior SIP documentation. Even with the program change, Wisconsin's motor vehicle budgets for the severe ozone nonattainment area plan project a continuation of declining emissions through 2007.

In addition, a 1996 report, *A Regional Transportation Demand Management Strategy for Southeastern Wisconsin*, identified four low cost, short-range TDM actions; three high cost, long-range actions; and five support actions. These actions included:

Low cost/short-range
Guaranteed Ride Home Program
Park-and-Ride Lot Expansion
Transit Extensions to Work Sites
Vanpooling Promotion

High cost/long-range
Land Use Planning Incentives
Regional Bicycle System Plan Implementation
Regional Transit Plan Implementation

Support Actions
Ongoing Marketing
Education and Outreach
Regional Intelligent Transportation Systems Deployment
Telecommuting/Flexplace
Transportation Management Association Funding Program

The 1996 analysis of these possible actions indicated that the potential emissions reduction would be very small. The emissions reduction remained minimal even if more than one strategy was implemented. In additional, the costs associated with implementing the regional TDM strategies were high. While the costs would be lower if only short-range actions were implemented, the short-range strategies had a smaller impact on emissions reduction than the long-range strategies. The report noted that a "Serious" legislative effort would be necessary to secure funding for the strategies.

In a separate evaluation, the Citizens for a Better Environment (CBE), an environmental stakeholder to the clean air planning process in southeast Wisconsin, identified the following long-term strategies in the

discussion paper entitled *Evaluation/Use of Transportation Control Measures (TCMs) to Reduce Emissions* as potential TCM approaches for reducing mobile sector emissions:

- Regional and local land use plans and procedures that can be modeled to demonstrate trip length reductions and better modal splits.
- Transportation Efficiency (Impact) Assessments that estimate VMT, profile expected pedestrian mode split and provide information on the expected efficacy of other trip reduction strategies.
- State support and incentives for the implementation of land use plans and developments that meet special "clean air" travel efficiency criteria.
- Full state spending of Congestion Mitigation and Air Quality (CMAQ) funds at federally authorized levels on projects with air emission reduction potentials.
- Staged state capital funding and/or operating assistance commitment to the fulfillment of essential major transit projects identified in the long-range transportation plan in the SEWRPC and Sheboygan areas.
- Participation in "Sustainable Cities" programs

A Technical Committee is directed to evaluate TCMs as part of a working dialogue between the Department and transportation stakeholders regarding support for the "uncertainty factor" [the 7 ½% growth increment] ultimately approved by the Board for inclusion in the Phase 3 MVEB. The committee consists of DNR, WisDOT, SEWRPC, and CBE. Its first charge is to evaluate potential TCMs for consideration by a broader conformity work group.

The dialogue identified criteria for evaluating future TCMs including: trip and/or VMT reduction; NOx and/or VOC emission reduction over a specified period; cost per ton reduced (e.g. capital costs, operating/maintenance costs, equivalent annual costs); implementation timeline; and feasibility (e.g. administrative costs, funding, political/public acceptance issues). Based on these criteria and any others agreed upon by the technical committee, a full list of potential TCMs will be evaluated for their effectiveness and the opportunity for their achievement. The working agreements noted that these evaluations would be submitted to the parent conformity work group for its selection of those most appropriate for implementation in support of further ozone SIP or non-ozone SIP air quality improvement effort based on limiting motor vehicle emissions. The Department staff, CBE and additional environmental stakeholders supported the mobile sector "uncertainty factor" conformity agreement and the exclusion of major transit capital and land use policies from the SIP *contingent on* a common and equal commitment to working within a parallel process regarding these policies on the part of the conformity group and major parties represented there.

8. Revisions and Adjustments to other related Ozone SIP Components

Area Status and Tie-in of the ROP Plan to Prior Ozone SIP Elements

At the present time, the following counties are designated as severe nonattainment areas for the one-hour ozone standard: Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha. Manitowoc, Sheboygan and Kewaunee Counties were originally designated moderate areas. Walworth County was designated marginal, and Door County was designated as a marginal, rural transport area.

Kewaunee, Walworth, and Sheboygan Counties were redesignated as attainment based on air quality improvement that occurred during the mid-90's, without the benefit of a formal regional ozone attainment demonstration. For Door County, EPA revoked the 1-hour standard based on 1995 to 1997 air quality data after the 8-hour standard was promulgated. This was based on a presumption that the 8-hour standard and NOx SIP Call would be driving regional ozone plans and would ensure regional attainment by 2007.

Door County Attainment Demonstration

EPA has recently reinstated Door County as a "marginal - rural transport" nonattainment area. Door County currently is not recording violations of the standard and a request for redesignation to attainment will be pursued based on the approval of a SIP that contains a current demonstration of attainment for 2007. Door County currently has a formal 1993 attainment date as a marginalarea, but remains protected from any bump-up control requirements through the 2007 regional attainment date.

Update to the Sheboygan and Kewaunee Maintenance Plans

Sheboygan County was recently reinstated as an ozone maintenance area for the one hour standard. Sheboygan County currently is recording violations of the standard and emissions from the county are shown to impact Manitowoc County and Door County during some ozone episodes. EPA guidance provides a method for establishing the creditability of NOx (and/or VOC) reductions from a 1990 baseline for emissions from Manitowoc and Sheboygan Counties. Based on the showing of downwind in-state ozone impact, the agency has included NOx and VOC reductions from Sheboygan County in the attainment demonstration and rate-of-progress plans.

Including Sheboygan County's emission reduction contributions in Wisconsin's ROP calculations somewhat reduces the control percentage across the entire control region but achieves a larger aggregate reduction in NOx (and VOC) from the air shed.

If Sheboygan County had been deleted from the ROP plan, it's continuing ozone violation status could have led to a requirement to implement its potential attainment contingency measures, as identified in its current maintenance plan, in isolation. One of these measures includes reformulated gasoline.

Kewaunee County is classified as attainment with the 1-hour standard and is not recording violations of the standard. The agency has determined that Kewaunee County should be removed from the NOx portion of the ROP-based attainment plan because it does not have major sources of NOx contributing to the Door County nonattainment problem. In addition, the absence of concentrated mobile sector activity suggests that it does not have a major effect on downwind air quality. VOC RACT components in the rule do apply to the county because of the 1996 ROP VOC control area definitions.

This comprehensive regional attainment plan provides the basis for updating the maintenance plans for the two counties of Sheboygan and Kewaunee and links any further contingency requirement for attainment maintenance to the comprehensive attainment demonstration. Therefore, Wisconsin is deleting the maintenance contingency option for these counties relating to Reformulated Gasoline Opt-in.

Prior Ozone Plans (SIPs) related to the Attainment Demonstration

Wisconsin's Ozone SIP is an approximately 25 year compilation of Plans, Rules, Programs and other actions addressing emissions tracking, monitoring programs, permit programs, emissions limitations, emission control programs and air quality assessments and modeled projections. The most recent new components and revisions resulted from Title 1 (Attainment Plan) requirements of the Clean Air Act amendments of 1990 (CAA-90) for areas designated by operation of law as nonattainment for the 1-hour ozone standard.

The CAA-90 continued a long-standing VOC emissions control strategy to address urban ozone. Specified control requirements included a comprehensive update to major source RACT controls, new area source control programs to limit VOC emissions from solvent use in various coatings, additional gasoline quality and distribution controls, and new motor vehicle emission standards (and a template for 2nd tier updates). Two new elements, primarily addressing regional ozone problems, were a structure to develop NOx emissions point source controls in a fashion similar to VOCs and the development of unique regional structures to develop multiple state AQ assessment and control strategies. The CAA-90 also addressed limited NOx control for large sources based on acid rain needs and authorized the development of a broad set of off-road engine controls and hazardous air pollutant controls (MACT limits) that would impact ozone strategies into the future.

Various ozone control program refinements included substantial alterations to the mechanisms for transportation conformity assessment for nonattainment areas and rigid mechanisms for ensuring that progress toward attainment is achieved. These rate-of-progress, emission reduction milestones and emission reduction contingency mechanisms have played a strong role in Wisconsin's revisions to the ozone SIP during the 1990's.

The major CAA-90 SIP revisions for Wisconsin related to ozone control programs have included a 15% VOC Rate-of-Progress Plan for 1996, a 9% Rate-of-Progress Plan for 1999, an Enhanced I/M Program, updated and augmented VOC RACT program components, a Waiver for NOx RACT and related components and two prior phases of an Attainment Demonstration. This SIP revision provides a Phase 3 Ozone Attainment Demonstration for all the remaining Wisconsin nonattainment areas based on a full Lake Michigan region attainment demonstration, as well as providing the control program basis for updating and simplifying the Maintenance Plans for Sheboygan and Kewaunee Counties.

This attainment demonstration is subject to the full and timely implementation of the noted regional and federal control programs incorporated in the regional attainment demonstration modeling as well as the Wisconsin control program elements. As well, through components of the Phase 2 Attainment Demonstration, the state previously committed to a 2003-2004 review of the regional control plans modeled for this SIP. That Lake Michigan states effort will assess the programs' relative effectiveness (through 2003-2004) in achieving ozone control and the demonstrated trend toward achieving the ozone standard by 2007 in the Lake Michigan region.

Implications of the Attainment SIP in regard to the Section 182 NOx Emission Control Waiver

USEPA's January 26, 1996 rulemaking granted a NOx waiver under section 182(f) of the Clean Air Act for the Lake Michigan Ozone nonattainment areas. USEPA approval required a reexamination of the effectiveness of NOx control in the final attainment demonstration for the region. This final attainment demonstration is supported by a full photochemical modeling analysis including an examination of regional NOx control as the principle method for reducing ozone concentrations in the lake Michigan region.

The modeling demonstration, in particular control scenarios SR15, SR16 and SR17, shows attainment using USEPA's statistical attainment test. These three control scenarios were modeled using the

Wisconsin NOx control regulations outlined in this Plan. The modeling demonstration includes the following NOx reductions in Kensoha, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygam, Washington, and Waukesha Counties:

1) Emission limitations at large coal fired power plants.
2) Emission limits or technology requirements for large industrial sources.
3) Implementation of pass/fail NOx cutpoints for the motor vehicle inspection maintenance program (excluding Manitowoc County which is not required to have an I/M program)
4) Enhanced new source performance standards for major new sources locating in the six severe ozone nonattainment counties.

Since the photochemical modeling demonstrates attainment with the above listed set of control requirements, any additional NOx requirements are "excess reductions" as defined in section 182(f)(2) of the Act. Therefore, Kensoha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygam, Washington, and Waukesha Counties retain the NOx waiver for the following control programs:

1) Reasonably Available Control Technology for major sources of NOx.
2) Lowest Achievable Emission Rate Technology for major new sources location in these counties.
3) Offsets for major new sources locating in these counties.

9. SIP and Rule Development Process

Potential Affected Parties and Stakeholder Input

As part of the ozone planning process over the last several years, all significant NOx and VOC emission sectors, including mobile, stationary, and area sources in Wisconsin were the subject of emission control evaluations for the period 2001 through 2007. The more recent evaluations focused predominantly on stationary source NOx control because of EPA's NOx SIP call to multiple eastern and midwestern states. The Department received extensive stakeholder input on the form and levels of the NOx emission limits, the applicability of limits to various sectors and on the appropriate geographic extent of controls needed to address the ozone problem.

Stakeholder groups involved in the development of the NOx control elements in the plan included electric utilities, the Wisconsin Paper Council, the Wisconsin Manufacturers and Commerce, the Department of Administration, the Department of Transportation, the Public Service Commission, the Department of Commerce, other state and local agencies, individual manufacturers, environmental organizations and individual citizens. Outreach for development of the latest rounds of RACT rules for VOC emissions included a more focused stakeholder effort for eastern Wisconsin.

The agency had extensive interactions on the NOx control components with the two private electric generation utilities and one municipal electric utility directly impacted by the rules for existing facilities. A broader group of facilities has also made comment on portions of the rules that would affect new sources and major source modifications. By virtue of the smaller number of industrial sources ultimately affected by the NOx performance standards, each of the facilities identified as potentially affected was directly contacted by agency staff.

Finally, the agency had multiple contacts and received comment from the various governmental representatives for Sheboygan and Manitowoc Counties. Their concerns addressed similar issues noted previously by local governmental entities in the 6 southeast counties. Issues of concern include: potential competitive disadvantage for the attraction of new industry, potential restrictions to their transportation planning efforts, small business impact of an offset program that contains small source size thresholds, and the general uncertainty of being "considered" nonattainment. Communication with these entities helped refine issues associated with the appropriate control approach for the Manitowoc Public Utility combustion units and underscored the importance of pursuing a reasonable control effort for the Edgewater power plant – a facility with high NOx emissions both from an emission rate and daily tonnage perspective.

As a result of the feedback from multiple stakeholders, the NRB excluded additional new source NOx control requirements beyond the existing NSPS and PSD requirements for Sheboygan and Manitowoc Counties.

Summary of Comment to the Draft Attainment and ROP Plans

Public Hearing Summary for AM-27-00

PUBLIC HEARING SUMMARIES

Public Hearing: Tuesday, June 27, 2000 at 1:00 p.m., Hearing Room, Kenosha County Center, Jct. Highways 45 and 50, Kenosha WI

APPEARANCES AT THE PUBLIC HEARING AND THEIR POSITION

In support – none
In opposition – none

As interest may appear:

David F. Seitz, RMT, Inc., 150 N. Patrick Blvd., Brookfield, WI 53045
Karen Celkis, Yunker Ind., 39312 90th Place, Genoa City, WI 53128
Stephen Hirshfeld, Wis. Dept. of Transportation, Room 451, 4802 Sheboygan Ave., Madison, WI

Tom Steidl convened the public hearing. He noted that the hearing is held pursuant to a May 15, 2000 public notice on proposed revisions to Chs. NR 400, 410, 423, 428, 439 and 485 of the Wisconsin Administrative Code, relating to a one-hour ozone standard attainment plan. The revisions include nitrogen oxide and volatile organic compound (VOC) emission controls, focused on meeting federal requirements for reasonable further progress, reasonably available control technology, VOC emission limits for industrial cleanup solvents and an excess emission fee. The ozone SIP plan revision includes a modeled attainment of the one-hour ozone standard in all areas of Wisconsin by the 2007 attainment date under the Clean Air Act. The ozone formation modeling demonstration shows attainment of the standard by 2007 under the assumption that upwind states that have been shown by EPA to significantly contribute to Wisconsin's ozone problem comply with the NOx reduction objectives of EPA's NOx SIP call by the 2005 ozone season. The demonstration also assumes that existing federal rules and actions controlling emissions from mobile sources achieve their projected benefits.

To address rate of progress and attainment requirements, the proposed rules established a program of NOx emission reductions focused on large combustion sources such as power plants, industrial boilers and other stationary sources. The rules involve a series of minimum emission performance standards for various new and existing NOx sources by size and type. The rules establish primary and secondary ozone control regions to define where and when NOx emission limitations apply. The rules establish a corporate, system-wide emission rate for the largest coal boilers starting in May 2002 with downward adjustments to the maximum allowed average NOx emission rate in 2005 and 2007. In the proposed rules, the emission limits and system averaging emission rate limits only apply to a nine county primary ozone control region. To further address attainment of the one-hour standard, the agency is proposing to depend on voluntary NOx emission reduction commitments from large NOx sources in the 21 county secondary ozone control region that is shown to impact the one-hour ozone concentrations in Wisconsin's nonattainment and maintenance areas during ozone episodes.

The proposed rules establish a NOx emission offset requirement for new sources for a 30 county portion of the state that includes the primary and secondary ozone control regions. The rules establish compliance, monitoring, record-keeping and reporting requirements associated with the NOx emission performance and burner tune-up and combustion optimization requirements. In addition to establishing NOx emission limitations for stationary sources, the proposed plan revisions include optional approaches to rate of progress plans for 2002, 2005 and 2007. These options address emission reductions from instituting pass/fail cutpoints for NOx in the state's vehicle emission testing program, starting in May 2001 and from applying the proposed NOx emission performance limits and tune-up optimization requirements to only a smaller set of the larger electric utility sources. The emissions projections associated with these attainment revisions establish mobile sector VOC and NOx emission budgets for the purposes of future transportation plan conformity

determinations. The plan includes a required reasonably available control technology (RACT) rule for the control of VOCs from the industrial cleanup solvent activities at major sources in the nine county primary ozone control region. The plan also includes a rule for an excess emission fee for a portion of VOCs emitted by major sources in the six severe ozone counties in Southeastern Wisconsin that would apply starting in 2008 if the counties do not attain the one-hour ozone standard in 2007. The public hearing notice indicated that in addition to three public hearings on the proposed plan revisions, the Department has already conducted two public meetings to provide information about the proposed revisions and to respond to questions that are raised.

The Department will consider any statements made during the public hearings, as well as any written comments the Department receives during the public comment process, in its final rulemaking on this matter. The Department is expecting to request adoption of the final rule at the September Natural Resources Board meeting.

Mr. Steidl noted that the Department did have a formal presentation on the proposed revisions, but offered those in attendance a chance to ask specific questions instead. Those attending chose not to have the formal presentation.

Mr. Seitz asked questions regarding offsets and the 1 ton per year applicability requirement. Mr. Steidl noted that the language in the proposed rule is a platform for whatever final revisions might be adopted for submission to U.S. EPA. Thus, the rule language is more comprehensive than some of the proposed options and alternatives that are available. The offsets will be used primarily in the context of new source review requirements, and if a new facility exceeds the threshold level, the offset requirement would apply to the increase in emissions. Where several modifications were occurring at units within the facility, you would add those together and the sum of these would be compared to the threshold. If the aggregate emissions were above the threshold, the amounts above the threshold would be subject to offsets. Mr. Seitz noted that the Department may want to look over the rule language, because, as written, he read the threshold limitations to be applying to each unit.

Mr. Hirshfeld asked what the baseline date for requiring offsets is. Mr. Hubbard responded that it would be after the effective date of the section, which would be approximately February or March 2001.

Mr. Seitz noted that the rule language did not limit the offsets to major sources, but in the Department's memo there is a reference to offsets applying to major sources. Is it the intention of the Department to apply it only to major sources? Mr. Steidl responded that the rule language does not limit it to major sources, but that is one of the options being considered.

Mr. Seitz commented that the Department's package says there is no direct impact on small businesses, but noted that if the offset threshold is 1 ton per year he sees hundreds of small businesses directly impacted. He provided data that it is a very small threshold. Mr. Steidl noted that it was intended to be small as a platform for discussion of the options for the threshold. Clearly, the rule language contains a threshold at the low end of the range. Again, one of the options in the rule package applies the threshold only to major sources.

Mr. Seitz noted that another concern is that the rule as written with an effective date for the offsets immediately after publication will significantly affect the economy of the state, because sources planning to expand will not have time to find offsets in that timeframe. Mr. Lopez noted that the Department did hear these concerns raised during the public meetings, and that comments addressing the timeframe are expected and will be addressed.

Mr. Seitz also questioned whether the rule package, with so many unresolved issues and energy issues, is a Type III action, under ch. 150, as determined by the Department. He indicated that it appears to be more of a Type II action. Mr. Steidl encouraged Mr. Seitz to submit these concerns as

comments for the Department to consider during the final rulemaking process. Mr. Seitz said he intends to submit written comments.
Mr. Hirschfeld asked a question about the numbers of NOx reductions anticipated under the vehicle inspection/maintenance program. Mr. Lopez noted that it is a rounding issue, and the amounts are 14 tons (rounded) for the earlier tonnage and the later tonnage is 8 tons (rounded) in 2007. These are based on data from (Southeastern Wisconsin Regional Planning Commission (SEWRPC).

Mr. Seitz asked about where the offset provisions appear and whether they modify other offset chapters. Mr. Steidl clarified that the proposed package does not suggest modifications to chs. NR 405, 406, 407 or 408, Wis. Adm. Code but the requirements appear in ch. NR 428, Wis. Adm. Code because the offsets deal only with NOx emission sources and that is the chapter dealing with NOx issues.

Mr. Seitz noted that Kewaunee, Manitowoc and Sheboygan counties are included in the rate of progress requirements and he asked why they should be as they are not serious or severe nonattainment counties. In fact, Sheboygan is an attainment county. Mr. Lopez commented that Sheboygan's status is unclear, as there are exceedances of the one-hour ozone standard. Mr. Bruss noted that the rule package includes these three counties with the 6 severe counties in the 15 % plan, and including them as a block here is consistent with plans and revisions over the past 10 years. EPA guidance allows the Department to take credit for emission reductions in these counties, and including them actually takes some pressure off the sources in the 6 county severe area. Also, Sheboygan has a vehicle inspection/maintenance (I/M) program and including them allows their program to be consistent with the 6 county program and take credit for the NOx I/M cutpoints under the rule package.

Mr. Seitz noted that the rule language suggests that electric utilities go out of the 30 county area for system-wide averaging. Mr. Steidl noted that the system-wide averaging intended to allow for averaging to be done on emission units subject to the requirements of the rule under common ownership and control. He noted this constraint may not be found in the language, but that was the intent.

Mr. Seitz noted that the states subject to the NOx SIP call have a much lower emission limitation of 0.15. He asked if the Department had considered requiring the utilities to go to the same lower limitation as those states. Mr. Steidl noted that, several months ago, the Department had proceeded with a rule to comply with the NOx SIP call and that rule did call for an emission limitation of 0.15. However, now that Wisconsin is not subject to the NOx SIP call shifts the focus to rate of progress reductions. Also, Mr. Lopez noted that during the NOx SIP rule process in Wisconsin, it became clear that the utilities did not have the capability to meet 0.15 by 2002, although it may be achievable by 2005 or 2007. It also may not be the most cost-effective option.

Mr. Seitz asked how the allowable emissions under a permit relate to actual emissions that may need offsets. Mr. Steidl responded that for purposes of new source review, actual emissions are often defined as allowable emissions so the presumption for new source review purposes is that if the permit authorizes NOx emission increases of a certain amount that would be the amount that would need to be offset for this requirement.

Mr. Steidl noted that there are three appearance slips, and all three individuals indicated that they were not interested in making an oral statement.

He offered to allow anyone who would like to make an oral statement for the record to do so at this time. No one indicated an interest. Mr. Steidl reminded those attending that there are two more public hearings: Wednesday, June 28, 2000 at 1:00 p.m. in the auditorium at Havenwoods State Forest, Milwaukee and Thursday, June 29, 2000 at 1:00 p.m. in the auditorium of the Appleton Public Library. Written comments should be submitted no later than July 14, 2000 to Bob Lopez, Bureau of Air Management, P. O. Box 7921, Madison WI 53707. Mr. Steidl thanked those attending the hearing for coming and formally concluded the public hearing.

Public Hearing: Wednesday, June 28, 2000 at 1:00 p.m., Auditorium, Havenwoods State Forest, 6141 N. Hopkins Street, Milwaukee WI

APPEARANCES AT THE PUBLIC HEARING AND THEIR POSITION

In support:

Mike Knenlein, Fuel Tech, Inc., 512 Kingsland Drive, Batavia, IL 60510

In opposition:

Patrick Stevens, Wis. Manufacturers and Commerce, 501 E. Washington Ave., Madison, WI 53701
Robert Heitzer, 8022 W. Jackson Park Blvd., Wauwatosa, WI 53213

As interest may appear:

David Boyd, Briggs & Stratton Corporation, P.O. Box 702, Milwaukee, WI 53201
J. Thomas Ravn, Serigraph, Inc., 3801 E. Decorah Rd., West Bend, WI 53095
Aaron Talley, Wis. Dept. of Transportation, Room 132B, 4802 Sheboygan Ave., Madison, WI
Dean F. Baker, Milwaukee Siga Company LLC, 309 Highland Dr., Grafton, WI 53024
Ken Yunker, Southeastern Wis. Regional Planning Commission, P.O. Box 1607, Waukesha, WI
Peter Tomasi, 411 E. Wisconsin, Suite 2550, Milwaukee, WI 53202
Jeremy Otte, American Lung Association of Wis., 150 S. Sunny Slope Road, Suite 105, Brookfield, WI 53005

Tom Steidl convened the public hearing. He presented introductory information reflected in the summary of the June 27 public hearing in Kenosha (see above.)

Mr. Steidl noted that the Mr. Lopez would make a brief overview of the rule package and attainment plan. There will then be a chance to ask questions about the proposed rules and an opportunity for anyone present to make a statement for the public hearing record.

Mr. Lopez presented overheads summarizing the attainment demonstration and rule package.

Mr. Steidl opened the hearing to questions from those attending.

A question was asked about whether the rule package would affect cost or reliability for power plants in Southeastern Wisconsin. Mr. Lopez noted that the Department requested that the Public Service Commission to open a docket and look into these issues as part of the NOx SIP Call. From this, it was found that even if the requirements applied statewide and were controlled at a higher level than what the package proposes, there did not appear to be a significant reliability problem.

Mr. Fassbender asked what the earliest date was where we could demonstrate attainment if rate of progress and the NOx SIP Call requirements are included? Mr. Bruss responded that we do not have that answer, as the modeling analysis was done for 2007 when the one-hour ozone standard must be met. However, he noted that given that a lot of the emission reductions come in closer to 2007, such as the implementation of the NOx SIP Call, Tier 2 and low sulfur in the 2004-2005 timeframe and the benefits will take a couple years to cycle through.

Mr. Fassbender asked if attainment could be modeled earlier, for example in 2006, could the rate of progress requirements for that year be avoided. Mr. Bruss responded that they could.

A question was asked about who the Tier 2 standards applied to. Mr. Bruss replied that they apply nationwide to all motor vehicle emissions. It is a new manufacturing standard for motor vehicles.

Mr. Ravn asked, in follow-up to the question on the rule package's impact on power plant reliability, if there were costs associated with the new requirements. Mr. Lopez commented that with earlier analyses for the NOx SIP Call, which were much more stringent controls, the cost range maximum was about two to five percent. The Department expects a much lower impact with the proposed rule package because it only affects some of the facilities and the control requirements, on average, across the system are much lower. Mr. Bruss noted that the Department expects a reduction of approximately 70 tons per day at a cost of about $ 1,000 per ton.

There were no further questions. Mr. Steidl moved the hearing into the session on taking oral comments.

Mr. Patrick Stevens, said he was representing Wisconsin Manufacturers and Commerce, a business association with approximately 4,600 members, employing about 500,000 people in the state of Wisconsin. Historically, WMC has been actively involved in ozone regulatory development. WMC opposes many of the provisions in the rule package because the association believes they are unnecessary and have the potential to negatively impact economic growth in the state. As a follow-up, WMC will be submitting written comments with specific concerns.

Mr. Stevens said there were inadequacies and discrepancies between the rule language and the May 12, 2000 cover memorandum from Secretary Meyer to the Natural Resources Board. Mr. Stevens noted that these discrepancies raised the issue of whether there was adequate notice to the general public about the rule and whether the Board had a full understanding of the impact of the rule package. For example, Mr. Stevens noted that an overhead which appears on page 14 in the rule package and was used in the presentation today is misleading. He said that Mr. Lopez pointed out that the overhead does not accurately reflect what the minimum standards will be for new facilities in the ozone maintenance region. It also implies that the requirements will not take effect until 2007, when, in fact, the rule states that the requirements apply in 2001. Also, on the same page the heading and discussion on offsets refers to offsets for major sources. However, the rule language requires offsets for emission increases of 1 ton or more, which includes sources much smaller than major sources. The description on page 12, regarding the impact on small businesses, the Department concludes that there will be no direct impact on small businesses. However, WMC believes that this is not true. The offset requirement is very likely to affect small businesses and to prevent them from locating or expanding in areas where the offset is required.

Mr. Stevens also addressed the need for the rule. WMC maintains that the Department is proposing to adopt a sweeping regulatory program that is not necessary to meet the one-hour ozone standard. He said that the Department has stated numerous times that, without any further reductions in Wisconsin, the state will be able to meet the attainment deadline when other states implement the NOx SIP Call and meet their legal obligations. Another point of concern relates to the rate of progress requirements included in the rule package. Again, WMC does not believe Wisconsin needs to make these reductions to reach attainment of the one-hour standard by 2007. The WMC believes that, rather than mandate these reductions, the Department should argue that it should be allowed to use reductions that are legally mandated in other states for rate of progress requirements. It does not make sense, nor was it the intent of the Clean Air Act, that an area such as Southeastern Wisconsin, once it has shown that it will attain the standard should be forced to make further reductions. WMC has questions relating to the rate of progress requirements contained the proposed rule.

The WMC also has general concerns about the maintenance requirements contained in the proposed rule. DNR has proposed performance standard requirements for the entire state, and offset

requirements for the primary and secondary ozone control regions in order to ensure that the ozone standard is maintained once it is achieved. These requirements are separate from rate of progress requirements. First of all, in the WMC's opinion, the Clean Air Act does not require these regulations. Secondly, in the September 16, 1999 Federal Register notice, EPA set forth the requirements that Wisconsin needed to meet in making its SIP submittal and that notice did not require a maintenance plan as has been proposed by the Department. We strongly disagree that this proposed plan, as stated on page 13 in the package, meets and does not exceed federal requirements. The Clean Air Act does not require that Douglas, Bayfield and Ashland Counties be regulated for ozone purposes in Southeastern Wisconsin. Other Clean Air Act provisions provide that once the ozone standard is attained, then the Department must submit a maintenance plan. Including provisions in this rule package to maintain the standard is not necessary. Also, in our opinion, the Department has not taken into account future reductions and has failed to show that the maintenance effort is necessary to maintain the standard. For these reasons, WMC opposes the maintenance provisions of the rule package.

Mr. Stevens noted that in addition to these general comments, WMC does have a number of specific concerns. The rule package will require a 51% emission reduction from the 1990 baseline to achieve rate of progress requirements. Again, 3% of this reduction (approximately 10 tons) is a contingency measure included for administrative ease. This reduction is more than the reduction achieved by the first milestone date and should not be added on upfront.

WMC thinks the Department should advocate and take credit for voluntary volatile organic compound (VOC) reductions which have occurred in Southeastern Wisconsin. The trend in Southeastern Wisconsin has been to reduce these emissions. On the one hand, the Department is advocating long-term reductions by industry, and yet the Department has not been able to provide credit for significant voluntary reductions which have occurred. This is a large disincentive to industry.

Regarding the proposed NOx cutpoints, the WMC supports including these in the rule package.

WMC has questions about what state statutory authority supports the rule in the package on the VOC.

Finally, WMC members are very concerned about the offset requirement in the rule. EPA has maintained a waiver for NOx for large sources in Southeastern Wisconsin, and now the Department is proposing the requirement for very small sources. We are concerned about whether the offsets will be available, and if so, at what cost. The WMC is also concerned about the impact of these requirements on the Department's permitting process. It appears that some sources who may be required to get offsets will be below the Department's permitting thresholds. Mr. Stevens said WMC is very concerned about the effect of the offset provisions on economic development in the state.

In conclusion, WMC has some major philosophical differences with what is in the rule package. Even if the specific concerns WMC has raised are addressed, it does not mean that WMC will then support the rule package.

Mr. David Boyd said he was representing Briggs and Stratton Corporation, Milwaukee. Mr. Boyd said that his comments today will be general and he will submit more specific and detailed comments in writing.

First, regarding language in the rule on the excess emission fee, he said he understood from the presentation today that this is a federal requirement. However, given that it will not be implemented until 2008, he requests that the state withhold putting this provision into language at this time. The most significant decreases in VOC is coming from industrial sources and this sector has the smallest tonnage remaining. There are not enough tons left to reduce in the industrial sector to correct the ozone problem in Southeastern Wisconsin. It appears to be more of a mobile source, electric generation and transport problem. This provision holds industry hostage with this

fee is punishing the wrong party for not attaining the standard in 2007. Also, while EPA may have seen this as an incentive to industry to make early reductions, it actually is a disincentive to implementing pollution prevention initiatives early because if they were put in place, there would be nothing left to reduce if there is a shortfall in 2007. Specifically, in Briggs and Stratton's case, in 1998, their emission inventory was 1200 tons. Last year it was 65 tons. Thus, the company has reduced its emissions from 1200 to 65 tons and yet it would have to pay the excess fee if the standard is not attained. This seems to be unfair. Mr. Boyd encouraged the Department to take efforts to get this federal requirement reversed.

Mr. Boyd next addressed the offset provisions in the proposed rule. He said that it will cause confusion to include the offset provisions in the chapter on NOx emissions as the proposed rule does, instead of including them in the permitting chapters (for example, NR 405, 406, 407 and 408, Wis. Adm. Code.) If the Department is seriously considering offsets, Mr. Boyd said there should be a effort made to review the NOx waiver and take that issue to public hearing and consider putting into place the requirements that do apply without the waiver. At this time, the offset provisions hold NOx to a higher standard than VOCs are. Mr. Boyd said he believes that the applicability requirement of one ton per day is unfeasible and the permitting burden is huge. This will bring in schools, small businesses and warehouses for permits because of the need for federal enforceability and other key components. He also said he believed there would be a huge shortage of offsets available. If you look at the emissions that have been reduced, there is not a lot of tonnage left to reduce for offsets. It is difficult to document VOC emission reductions, and it will be far more difficult to document NOx reductions. Most plants have one gas meter. When a small oven is removed, there is not the submetering to show what the real emissions from that oven were. This will happen for a lot of sources that will disappear. If we are going to talk about offsets and if this is necessary in the future, let's put in under a permitting regulation, set the threshold at 25-40 tons for major sources, revisit the NOx waiver and the original NOx requirements and go back out for public hearing.

Mr. Boyd expressed a concern that the rule package goes over and above the SIP requirements. We are being very aggressive in getting VOC and NOx reductions and driving the baseline down. This means that in the future, if the state must make reductions for the eight-hour ozone standard and faces rate of progress reduction requirements, we will have nothing left to give.

On a couple specific comments, Mr. Boyd expressed concern about the definitions of industrial clean-up solvents and maintenance cleaning in the RACT regulation are very difficult to understand. He said he cannot tell how they apply to their operations.

In NR 428.04 and 428.05, Wis. Adm. Code, there is reference to reheat furnaces, but this is not defined. Also, in 428.05 (3)(c), there is a Btu cut-off but in 428.04(4)(c)2, there is no Btu cutoff. Given the requirements for the boiler tune-up, would ask the state to set an emission factor with "engineering judgment" to document these reductions.

Briggs and Stratton supports the NOx cutpoints for the vehicle inspection/maintenance program in the rule package. It is important that the general public understands the costs of clean air. Briggs and Stratton supports the provisions in NR 428.06(2), Wis.Adm.Code to allow emission trading by the electric generating units.

J. Thomas Ravn said he is representing Serigraph, Inc. In the rule package, on page 2 it is assumed that Wisconsin will attain the one-hour ozone standard without implementing further controls. While the Clean Air Act requires rate of progress reductions, there is conflicting thought on whether these requirements are mandated when attainment can be demonstrated by other means. Thus, there is a real question about whether some of the proposed measures in this package are truly necessary. Southeastern Wisconsin residents pay a hefty price for clean air and we need to be certain that the costs for environmental protection are necessary, reasonable and effective.

Mr. Ravn addressed specific provisions of the clean-up solvent rule. In NR 423.35 (3)(a)1, Wis. Adm. Code, on product cleaning and surface preparation, this would require a water-based material but this alternative would leave unacceptable residue and cause damage to the machine part. At this time, I do not have a suggested alternative, but would like to further discuss this with the Department. Mr. Ravn also raised a concern about not being able to use low vapor pressure solvents as a method of compliance. These evaporate slowly and reduce VOC emissions. General trends have relied on this method. We should encourage use of these materials and research on these. Mr. Ravn recommended that anywhere in the rule where there is a limit mandating low VOC materials, there should be an option for using low vapor pressure substances. Mr. Ravn noted that Serigraph has tried blending materials with acetone and has found that VOC retention can decrease and net VOC emissions can increase during cleaning. Serigraph is also concerned about the exposure of employees to acetone and the high flammability of acetone makes it a serious safety concern under certain conditions. Mr. Ravn stated that ethyl acetate, while a VOC, is less of a health concern than methyl acetate which is another alternative to acetone. Mr. Ravn also said that another place to allow the use of low vapor pressure solvents is the section on general cleaning. Serigraph has not found a suitable alternative other than low vapor pressure solvents to remove adhesives that would meet this requirement. Section NR 423.34, Wis. Adm. Code, is extremely confusing. It appears that there are up to eight different limits that could apply between current s. NR 422.142 and here under s. NR 423.34(3)(d) 1 on general cleaning, and (3)(d) 6 on UV cleaning. This will create real problems for maintenance workers. The section should be clarified and streamlined. Mr. Ravn also referred to s. NR 423.35, Wis.Adm.Code which contains a limit of 6.3 pounds/gallon of VOC which pushes the limit on solvent blending. Serigraph recommends a level of 6.4 pounds/gallon of VOC to allow for fluctuations in solvent batches. We support the limit of 6.7 pounds/gallon for the cleaning of UV application equipment. Serigraph understands the Department's time schedule, but it is extremely tight. It may be too tight to determine the effects of the proposals and Serigraph's ability to comply. Serigraph will submit written comments on these and other concerns.

Mr. Steidl noted that this concluded the appearances by those who had indicated they wished to make an oral statement for the record. He offered anyone else a chance to speak. When no one indicated an interest, Mr. Steidl concluded the public hearing. He reminded those attending about the next day's hearing in Appleton and provided the contact name and address for submitting written comments to the Department by the July 14, 2000 deadline.

Public Hearing: Thursday, June 29, 2000 at 1:00 p.m., Auditorium, Appleton Public Library, 225 N. Oneida Street, Appleton WI.

APPEARANCES AT THE PUBLIC HEARING AND THEIR POSITION

In support – none

In opposition:

Ed Wilusz, Wisconsin Paper Council, P.O. Box 718, Neenah, WI 54957
Kevin Crawford, Mayor, City of Manitowoc, 817 Franklin Street, Manitowoc, WI 54220
Nilaksh Kothari, Manitowoc Public Utilities, 1303 South 8th Street, Manitowoc, WI 54220
David H. Morris, Plastics Engineering Company, 3518 Lakeshore Rd., P.O. Box 758, Sheboygan, WI 53082-0758

As interest may appear:

Jeffrey C. Agee-Aguayo, Bay-Lake Regional Planning Commission, Suite 211, Old Fort Square, 211 N. Broadway, Green Bay, WI 54303-2757
Joey Brockman, All Sports Active Wear, 133 West Main Street, Little Chute, WI 54140

Gordon Schloemer, J.L. French Corp. P.O. Box 1024, Sheboygan, WI 53081
Ryan A. Reed, 2156 Meadow Green Drive, Neenah, WI 54956
Brian Galley, Pechiney Plastic Packaging, Inc., 2301 Industrial Dr., Neenah, WI 54956
Tom Steidl convened the public hearing. He presented introductory information reflected in the summary of the June 27 Kenosha public hearing (see above.)

Mr. Lopez presented overheads summarizing the attainment demonstration and rule package. Mr. Bruss presented information on the attainment analyses and the technical modeling demonstrations.

Mr. Steidl opened the hearing to questions from those attending.

A question was raised about why the rule was not organized by boiler size in specifying control requirements. Mr. Hubbard noted that decisions were made early in the rule drafting process on how to organize the rule. The Department decided not to organize the requirements in the rule by the size of the boiler. He said that larger boilers, greater than 500 million Btu per hour, are subject to rate of progress requirements. That is, emission limits, relating to rate of progress, do apply to these boilers. In addition, performance standards are included for units considered more of a medium size, at 180-200 million Btu per hour, or bigger. If a boiler is small, equal to 50 million Btu per hour or more, there are tune-up and combustion optimization requirements. The Department is open to comments about how to organize the rule, if this is confusing. Asked where the sections in the rule with these requirements were, Mr. Hubbard said that s. NR 428.04, Wis. Adm.Code, contained the requirements and performance standards for new sources and s. NR 428.05, Wis. Adm. Code, contained the requirements and performance standards for existing sources.

Mr. Galley said he had two questions related to offset requirements in the proposed rule and one on the industrial solvent cleaning rule. He asked how the offset program would be implemented, whether through the construction permitting process, or some other way. He also asked if the Department is open to a different threshold level for the offsets. He said that this threshold is extremely low to trigger NOx offsets, noting that a back of the hand calculation equates this threshold to the emissions from a small source such as a space heater or a gas dryer or a full operation schedule. Mr. Lopez responded that yes, the Department is considering other thresholds, and noted that the greensheet package references the potential for other thresholds. Mr. Hubbard said in response to the first question that the Department did envision using the construction permit program to implement the NOx offsets, similar to the VOC offsets.

Mr. Galley said it appears that the industrial cleanup solvent rule is patterned after the Southcoast (CA) rule. He asked if the Department would be looking at other cleanup solvent rule, noting that he was more familiar with the San Francisco Bay area rule which was promulgated after the Southcoast rule and is a little different regarding solvents for the printing and publishing industries. Mr. Bruss responded that the rule was based on the Southcoast rule which has three sets of limits. Wisconsin's rule uses the middle set of limits from the Southcoast rule that were to be complied with by January 1, 2001. The Department thought the Southcoast rule had the best structure. However, he noted that the Department has already received comments for changes that would be appropriate to the rule and is considering these. For example, the Department is looking at using vapor pressure limits for solvents, rather than just the solvent content requirements. Mr. Bruss said the Department is also looking at restructuring the rule.

Mr. Kothari asked in the definition of combustion optimization in the greensheet there is language about design modification as a means of combustion optimization. However, in the slides from today's presentation, it was stated that combustion optimization will not require any equipment modifications. Is the Department going to take the language about design modifications out of the greensheet definition and add language saying that no equipment modifications are required for combustion optimization? Mr. Hubbard said that if the language in the rule does not reflect that the Department does not intend to require equipment modifications for combustion optimization, then the Department is open to suggestions on alternative language.

David H. Morris, Plastics Engineering Company, Sheboygan County asked whether Sheboygan County is an attainment county. Mr. Lopez responded that it is. When asked if rate of progress is required by the Clean Air Act. Mr. Lopez said it was. Is rate of progress applicable to severe nonattainment areas only? Mr. Bruss responded that rate of progress is applicable to any county that continues as nonattainment unless it is a rural transport county or has bump-up protection. The Department designed the rate of progress requirement in the SIP to address Sheboygan County because it does have a monitored violation of the one-hour ozone ambient air quality standard. Sheboygan County's status is somewhat uncertain because of EPA's revocation of the standard, after the eight-hour standard. The Department is looking at reduction of NOx where it is most beneficial, where it's appropriate and EPA's guidance allows the Department to use a 200 kilometer buffer zone around the nonattainment area to take advantage of NOx reductions. The Department is including NOx reductions in Manitowoc, Sheboygan and Kewaunee Counties because high concentrations of ozone occur there and EPA's guidance allows the Department to do this. It gets the NOx reductions where they are most effective in Wisconsin. Mr. Morris (?) asked where he could get a copy of the EPA guidance. Mr. Steidl responded that the Department would contact him and get a copy of the guidance to him.

A question was asked whether the Department was open to removing Sheboygan County from the primary ozone control zone and putting it in the secondary ozone control region. Mr. Lopez said that the Department is still taking comment on this.

A question was asked about whether units are considered individually or in aggregate for the performance standard thresholds. At this facility, the largest unit is 14.5 million Btu per hour. Mr. Hubbard responded that the rule looks at each unit by itself for requirements to tune it or meet performance standards. This is done differently if a company is getting a permit. Under this proposed rule, each unit is looked at individually. Thus, the largest unit at this facility is considered a small boiler under the proposed rule.

Mr. Kothari asked how the Department defined a new source for a facility who is considering buying used units from another facility – would these be new sources or existing sources? Mr. Hubbard responded that if the units are new to your facility or plant it is a new source. It would not be new if it is coming from within the plant, but if it is from another facility, it is a new source. Mr. Steidl noted that, for new source purposes, if you are bringing equipment to your site, it is considered to be new to your site and a new emission source.

Mr. Wilusz asked from a Department program standpoint, and a construction permit program standpoint, assuming the offset requirements are promulgated as drafted, how these requirements affect permits in progress now. Mr. Steidl said that the Department anticipates applying the NOx offset requirement to permits that are issued after the effective date of the rule, or, if there is a subsequent effective date for that provision included in the rule, then it would apply to permits issued after that date.

A question was asked about how the term defined the term "modified" in the proposed rule. If a facility qualifies for an exemption under ch. NR 405 or 406, Wis.Adm.Code, would the facility be exempt under this rule? Mr. Steidl responded that it has been pointed out that there is no specific definition of "modification" under this proposed rule but the intent was to apply the term modification in the context of the permitting process. Thus, if the modification occurred for permitting purposes, it would be a modification for the purposes of performance standards or the application of the offset requirements under this rule. So, while it's not clear from the language under this rule, it is the intention that if you were exempt from the modification definition for permitting purposes, you would be exempt under this rule.

What is the effective date of the rule? Mr. Steidl responded that that is not clear because of the process involved. The Department expects to take a revised rule to the September meeting of the Natural Resources Board for final adoption. The rule then undergoes a legislative review of

approximately 30-60 days. Then the rule is published in the Wisconsin Administrative Register. Normally, the rule becomes effective the first day of the month following publication of the rule in the Register. Generally, this would probably mean an effective date of early in 2001. The rule package is submitted to U.S. EPA by December 31, 2000.

Mr. Wilusz asked what the 37 ppb reflected in the modeling analysis. Mr. Bruss said that it was modeled with a base case and then modeled with the emissions zeroed out. He clarified that the 37 ppb reflects the change in concentration from zeroing out those emissions.

Mayor Crawford asked if the 200 kilometer buffer zone is measured as a radius around the monitoring station. Mr. Bruss said that it was actually a buffer zone around the entire nonattainment region, measured from the county lines. This means the state could take credit for NOx reductions in Dane County to meet the rate of progress requirements. Mayor Crawford asked how the NOx requirements for outside counties, for example, Brown County compared to requirements in the nonattainment area. Mr. Bruss responded that the maintenance requirements in the secondary control region are considerably less than the requirements on the electric generating units in the primary control region (nine counties). Most of the controls in the secondary control region are cost-efficient. The performance standards for new sources are intended to prevent sources from migrating west to avoid the control requirements. Mayor Crawford asked if the other milestones will be made for rate of progress, given that we are six years behind in submitting this SIP. Mr. Bruss responded that those milestones should hold. He noted that the six year delay came about from early analysis that showed that the state could not attain the one-hour ozone standard without getting reductions of ozone being transported into the region. This led to the multi-state Ozone Transport Assessment Group, and a couple of other delays, and EPA gave the state a later submittal date to let this process proceed. Mayor Crawford then asked if the earlier milestones were met. Mr. Lopez said the state met its 1996 milestone. It was the later milestones that the early analysis showed would be problematic without addressing ozone transport. Mayor Crawford noted that the original Clean Air Act, if nonattainment areas did not reach attainment levels or meet the rate of progress requirements, the moderate counties of Sheboygan, Manitowoc and Kewaunee would move into the serious or severe nonattainment designation. He asked if this is still how the plan works. Mr. Lopez responded that the Department hoped there was not a formal bump-up to the severe nonattainment classification, but noted that regardless of the classification the goal is to submit an attainment demonstration and get the areas into attainment by 2007. He said that that was what this proposed rule package and plan should do. Mr. Bruss noted that the Department was successful with EPA in getting bump-up protection for Manitowoc County. However, the highest ozone readings still occur at Newport Beach State Park in Door County so there is still work to be done, especially if the eight-hour ozone standard is upheld.

Mayor Crawford asked whether in order to meet the rate of progress requirements, the vehicle inspection/maintenance program would expand into Manitowoc County. Mr. Bruss said no, this is not part of the plan. Mayor Crawford asked if onboard diagnostics was an industry-wide standard or if it would only be mandated for nonattainment areas. Mr. Lopez said that it was an industry-wide standard, however, in the vehicle inspection /maintenance program there will be a test that can read the diagnostics without putting the car on a dynamometer.

There were no further questions. Mr. Steidl moved the hearing into the session on taking oral comments.

Jeff Agee-Aguayo said he represents the Bay-lake Regional Planning Commission. He offered comments from the transportation planning staff at the Commission relating to mobile sector budget. He said there is a need to separate the mobile sector emission budgets for Manitowoc and Kewaunee counties. He said these would be used as a precaution in case the Manitowoc/Two Rivers area is designated an urbanized area as a result of the 2000 census. This would require designation of a metropolitan planning organization (MPO), and traffic and air quality forecast modeling and air quality conformity analysis. If this would happen, a separate mobile sector budget would make things a little easier.

In the case of the Sheboygan area, he said the Commission would like to estimate population, housing unit and employment projection assumptions if these are used to estimate vehicle miles traveled (VMT). This is especially a need to compare these with Department of Administration (DOA) 1999 population estimates and to the Commission's estimates for housing units and employment projections for their transportation planning process. The Commission staff would like to meet with the Department to review this data. There have been problems with the DOA population estimates. Also, the 2000 census is likely to require reassessment of demographic and socioeconomic projections and the revised SIP will need to have sufficient flexibility to accommodate these reassessments.

Mr. Agee-Aguayo stated that there is a need to reexamine the Department's assumed VMT projections to make sure that they are not lower than the Commission's and Wisconsin Department of Transportation travel forecast and analysis section's VMT projections for Sheboygan county. Again, a meeting with the Department would resolve this.

Mr. Agee-Aguayo asked that there be a clearer explanation of the details behind the Mobile 5A output and the assumptions used in the development of the proposed SIP revisions versus the Mobile 5A output and assumptions used in the air quality conformity assessment, the Year 2020 Sheboygan Area Transportation plan and implementing its year 2000-2003 transportation improvements program. In particular, the Commission would like to obtain the emission factors that would result from the revised SIP for various years including 1990, 1996, 2001, 2007, 2010 and 2019-2020. In addition, the Commission requests emission factors for any years between 2001 and 2007, if they are required to perform conformity analysis for those years, and for the years 2020-2025, if it's possible to produce emission factors for these years before Mobile 6 is out.

He noted that there is the VMT speed range emission stratification within the Sheboygan Area Transportation Plan study areas is a finer detail than what is assumed for all of Sheboygan County in the SIP plan. This is likely to become critical issue as we proceed with the travel demand forecast model for all of Sheboygan County between now and 2005. In addition, Mobile 6 is likely to require reassessment of mobile sector emission projections and the revised SIP will need to have sufficient flexibility to accommodate this reassessments.

We would advocate the use of safety margins for mobile sector emission budgets for Sheboygan, Manitowoc and Kewaunee counties. At this time, we presume that mobile sector emission budgets will not be developed for the remainder of the counties served by the Commission. However, if this would happen, we again advocate for the use of safety margins for those counties as well.

The Commission reserves the right to provide more substantive comments on the proposed SIP revisions as answers to the above inquiries are provided by the Department. We would like to meet with the Department staff as soon as possible to resolve these concerns. Thank you for the opportunity to comment on the proposed revisions to the one-hour ozone air quality standard attainment plan.

Ed Wilusz, Director of Public Relations, Wisconsin Paper Council, said he was appearing today to comments on the proposed SIP revisions. The Paper Council is the trade association for the pulp and paper and allied industries in Wisconsin. The Paper Council is opposed to proposed chapter NR 428, Wis. Adm. Code. He said the Council understands that a plan must be submitted to EPA by December 31 of this year, however, many of the requirements included in the rule are simply unnecessary. The rule is a clear example of regulatory overkill and regulation for the sake of regulation. It must be pared down to include only those elements necessary to meet attainment requirements. The purpose of the proposed rule is to address air quality compliance problems that exist in other parts of the state – primarily the Milwaukee area. Appleton and the Fox River Valley are very fortunate to have good air quality.

We believe that voluntary efforts by the paper industry, such as the Pollution Prevention Partnership, can help to maintain this good air quality. On a broader level, air quality in Wisconsin has been improving. The long-term trend shows a decline in ozone levels. The steps that have been taken in Southeastern Wisconsin to reduce VOC emissions appear to be working. Counties in the northern end of the ozone nonattainment area, such as Door and Kewaunee have shown no violations of the standard since 1997. In other counties, peak ozone levels are declining. Further improvements can be expected as other states make significant reductions in NOx emissions that result in high ozone levels in Wisconsin. In fact, the Department's modeling shows that Wisconsin will meet the one-hour ozone standard in 2007 without the implementation of any other controls in the state. This is something that is not clear from the rule package and is important for the public to understand. No additional controls on industry, utilities and other sources are necessary to meet the one-hour ozone standard in Wisconsin. This confirms the state's longheld position that ozone problems in Wisconsin are largely, though not exclusively, the result of high levels of ozone blowing into the state from the south. Despite this evidence, the Department is proposing significant restrictions on a large range of industries throughout the state. These restrictions could affect economic development in parts of the state that have no valid connection to air quality in Southeastern Wisconsin. It is very frustrating for the paper industries and other industries to be dealing with a rule like this from a Department that speaks of achieving both economic growth and environmental protection and advocates innovative regulatory approaches. The most disturbing parts of the proposal are those that impose restrictions on new and modified sources located in areas like Appleton and the Fox Valley area that meet clean air standards. These restrictions include NOx emission offsets, new source emission limits, boiler optimization and tune-up requirements. These restrictions are simply unjustified. The Department's modeling shows that instate controls are unnecessary for the state to meet the compliance test. Courts in other parts of the country have found that in this situation, no additional controls are legally required. Further, the modeling fails to account for significant VOC and NOx emission reductions that are proposed to meet rate of progress requirements. This would provide an additional margin of safety to assure attainment of the standard and make future violations unlikely. An analysis of windflow during high ozone days confirms out the obvious. South winds blow ozone precursors into Wisconsin from other states; instate controls cannot address them. No evidence exists to demonstrate that economic growth and potential emission increases in attainment areas would be sufficient to erode air quality gains and cause future violations in current nonattainment areas. The Clean Air Act does not require the immediate imposition of maintenance-related requirements; this would be illogical. The Clean Air Act describes maintenance requirements in terms of contingency measures that would take effect after 2007, and only if necessary.

In addition to having concerns about the need for emission restrictions, there are very real problems with implementing the proposal. The most obvious is the offset requirement for new and modified sources. This would require any new or modified source with an emission increase of 1 ton or more to obtain an offsetting decrease in NOx emissions before the new or modified source could begin operation. First, this requirement applies to facilities in a broad area of the state, including Appleton and the Fox Valley, no matter how small and regardless of whether a permit was required or not. We understand that this may not have been the Department's intent, however we have no alternative except to respond to the rule as written. Second, the threshold of one ton is very low and will impact many small sources. In our industry, the installation of a small dryer on the converting line could trigger the offset requirement. Small projects in other industries could also trigger the requirement. Third, the definition of "modification" is unclear and could include many small maintenance or efficiency related projects. Fourth, and most important, the offset requirement would take effect immediately upon promulgation of the rule and before any offsetting NOx reductions have occurred within the state. The result may well be an immediate halt to any qualifying project. The economic development consequences could be significant. Offset requirements pose significant hurdles to companies. For this reason, the Clean Air Act and Wisconsin law reserves this restriction for designated nonattainment areas. We strongly oppose the imposition of offset requirements for maintenance purposes in attainment areas.

There are many other concerns with the proposed rule that the Paper Council shares with others in the business community. Among these are the technical validity of modeling and attempts to link statewide sources to nonattainment problems; the near complete lack of cost-benefit information or even an acknowledgment that the proposal could have significant impacts on both small and large businesses; the lack of statutory authority for many of the proposed requirements; the technical ability of sources to meet the performance standards at a reasonable cost; and a wide range of technical issues. These issues, along with issues of statewide and new source restrictions and offsets, will be more fully addressed in written comments submitted to the Department. In summary, the Paper Council opposes proposed ch. NR 428, Wis. Adm. Code, as it goes far beyond anything required by the Clean Air Act or U.S. EPA. Many of the restrictions are simply not necessary from an environmental or regulatory standpoint. It is regulatory overkill – regulation for the sake of regulation.

Mayor Kevin Crawford, City of Manitowoc thanked the Department for holding the public hearing in Appleton today. He noted that he has been mayor since 1989, so he was around for the introduction of the 1990 Clean Air Act Amendments. He said he was very concerned about the health of the families of the City of Manitowoc and Manitowoc County. He said Manitowoc has been very proactive in dealing with its ozone nonattainment status. Obviously, new building permitting has been regulated by the state and they are in compliance. The City of Manitowoc is home to the largest municipally owned electric generating facility in the state of Wisconsin. He said they are a better utility neighbor than any other utility in the state and make sure that the facility is running at its peak in the most efficient manner and without pollution. In addition, his office in Manitowoc is the contact for Manitowoc County in the Ozone Action Days program. People in Manitowoc, Two Rivers and in the county definitely participate by not topping off their tanks on those days, filling up the tanks after sundown, and, one thing that I enjoy doing, putting off mowing the lawn. We do all those things – but transport is the key issue. For this reason, he testifies in opposition to the proposed rules because he does not think they go far enough in the secondary ozone control region.

In 1990, one of his first jobs as mayor was to negotiate with a large latex manufacturer interested in locating in Manitowoc County. There were long and arduous negotiations with the railroad, the manufacturer and other property owners. The plant consultant discovered the Clean Air Act rules being promulgated and instead sited in the pristine air in Brown County. The fact of the matter is that the ozone problem in Manitowoc could be linked to precursor VOCs emitted by this plant and others outside the nonattainment area. This is unfair to the rural transport county of Door and to Kewaunee and Manitowoc as well.

A second concern regarding the proposed rules is that it comes at such a time in the history of the state of Wisconsin where power is at a premium. The ability to build new power plants in eastern Wisconsin along the lakeshore will be severely hampered by the imposition of these rules. The fact of the matter is that the state of Wisconsin has been completely impotent in dealing with the issues regarding creating new transmission to bring power to eastern Wisconsin from cleaner sources out West. Take a look at the nexus here in regard to the ability of elected officials, local governments and private industry in providing a unique and wonderful quality of life to the people who live here. Solid fuel plants are probably the ones hardest hit by the rules being promulgated. It's obvious that gas combustion turbines are not the answer. The fact of the matter is that people in the state of Wisconsin and others in the Midwest already sharply injured in their personal economies by the high cost of energy will not be able to afford the even higher cost of gas-generated electricity in the future. Transmission restrictions or constrictions on the grid also require that solid fuel plants, or even combustion turbines, be built where the power is regionally needed. There is no guarantee because of market power that if you build a plant in the western part of the state, where VOC emissions are less of a concern, that the power will ever make it to Manitowoc, Sheboygan, Milwaukee or other areas where the jobs happen to be.

The concern that we see is a combination of many things. First is a concern about the impact of ozone coming into the nonattainment area, not only from the south but from the west and southwest also – as you saw from the Department's charts, some of the worst ozone days are in the City of

Manitowoc. The City has been cited by the American Lung Association as having the worst air quality in the state. But the fact of the matter is, that the ozone ended up here – we didn't put it here. Second is a concern about the proposed rules limiting the building of new power plants on the eastern side of the state. Until the state can come to grips with transmitting energy from lower cost producers out West, we really need to have the power plants available immediately. Third is a concern about the economic development issues and the negative economic impact of this proposed rule in regard to that power generation. The City of Manitowoc and the Manitowoc public utilities will provide written comment by the July 14 deadline.

Mr. Steidl said that concludes the oral statements from people who marked their attendance slips as wishing to speak. He offered the chance to speak to anyone else attending. When no one else chose to speak, Mr. Steidl concluded the public hearing. He reminded those attending of the July 14 deadline for written comments and gave the contact name and address for those comments. He thanked all those who attended.

Attainment SIP Comment and Response Summary

WRITTEN COMMENT SUMMARY AM-27-00

The Department's rule package, AM-27-00, for the one-hour ozone standard attainment plan, received comments from 71 companies, trade associations, local government units and organizations. The Department reviewed each specific comment and significantly revised and redrafted the proposed rule to respond to the comments. This document summarizes, by subject area, the contents of the comments received.

PERFORMANCE STANDARDS

Thirty-five comments were received which made specific comments or reference to the proposed performance standards. They addressed the proposed emission limits, optimization and tuning requirements, monitoring requirements, reporting requirements and refinements to rule language.

General Comments

There were seven comments on ambiguous language, unclear intent and the need for more definitions in the rule language. Five comments stated that the analysis of controls, costs and impacts is inadequate to justify implementation of performance standards. A significant number of comments addressed that controls should not be used for attainment or maintenance until after 2007. Four comments specifically stated that if controls are needed that they should either be limited to larger electric generating units (EGUs) and industrial sources, or exclude small industrial sources. Several comments stated that the controls should be focused in the six severe nonattainment counties. Three comments stated that any control program should only be implemented over the ozone season. A phasing approach for implementing controls was recommended in one comment. There was one comment that alluded that the Department needs to pursue more stringent controls.

Existing Performance Standards

Several specific comments were made related to emission limits. A significant number of comments addressed simplifying and modifying monitoring requirements. Three comments addressed that the stoker boiler emission limit at 0.25 lbs/mmbtu is beyond combustion modifications and is too stringent. Three comments provided cost and technical information that a 0.1 lbs/mmbtu for asphalt plants can be achieved with gas only at a substantial cost. In addition, the primary fuel is waste oil which cannot achieve the same level of control. One comment addressed that responding to emission limits can take up to 24 months.

Optimization and Tuning

There were five comments strictly opposing all optimization and tuning requirements. One comment opposed the requirements but recommended that the Department work with asphalt plants to establish monitoring requirements. Another comment noted that the requirements are hard to justify and were more stringent than NSPS which only affects boilers larger that 100 mmbtu. One comment opposed these requirements in this rule package and recommended them for the future, if further reductions are needed. Another comment noted that the facility already operates in this manner so there is no potential for additional reductions.

A total of ten comments addressed ways to refine the requirements. One suggested extending the period for tuning. Another suggested using oil sampling and analysis for IC engines. One noted that there needs to be an accounting for CO and toxics in the procedure. Another stated that these requirements may call for automated controls. Three comments noted that the tuning requirement is not adequately defined. Three comments said the threshold for gas-

fired boilers should be 25 mmbtu/hour. One comment suggested that the threshold for industrial processes be 25 mmbtu/hour.

One comment supported optimization and tuning requirements as necessary to meet rate of progress requirements. One comment suggested strengthening the optimization requirement in lieu of emission limits on existing sources.

New Performance Standards

A total of eight comments made statements strictly opposing the new performance standards. Comments noted that the NSPS and PSD programs sufficiently address emissions from new sources. Also, the proposed limits were stated to be too stringent and in many cases beyond that of the NOx SIP Call for industrial sources. Seven comments specifically opposed new performance standards in the secondary or attainment areas.

Thirteen comments were of a technical nature that provided a basis for modifying the proposed new source limits. Several comments provided information on limits consistent with available low NOx technology. One comment stated that if controls are necessary, they should be consistent with RACT. The majority of the IC engine comments stated that the standards should be consistent with EPA standards for new engines. Significant comments addressed appropriate thresholds, capacity factors and exemption for backup fuels.

Eleven comments addressed the definition of "modification" as proposed. The majority of comments requested clarification or questioned the definition of "modification." At least one comment suggested a minimum threshold of 25 TPY. Several comments provided information that the current threshold includes very small sources with severe cost impacts. A number of comments raised the issue that the new source emission limits may be too stringent or not technically feasible for an existing modified source.

Electric Generating Units (EGU) Limits

Several comments specifically addressed EGU Limits. Two comments suggested that the NOx SIP Call limit of 0.15 lbs/mmbtu be considered. Two comments supported the EGU requirements for meeting rate of progress requirements. One comment argued for refinements in the calculation that will push the EGU limit upwards to 0.33 -0–36 lbs/mmbtu based on: 1) eliminating the 10 tpd used to account for average emissions season; and 2) accounting for new PART 75 CEM monitoring method in future emission and therefore an emission rate requirement.

Monitoring Requirements

One comment stated that EPA certified engines should be exempt from continuous emission monitoring. It was suggested that the monitoring requirements should be only on an ozone season average. A comment suggested that the monitoring requirements need to be consistent between all units to allow for trading and averaging and to minimize the administrative burden of compliance.

Reporting Requirements

A comment noted that reporting should be done annually and show necessary information.

OFFSETS

The Department received extensive comments regarding the offset provisions in the proposed rule. Many of the comments opposed the provisions, especially for small sources. Other comments addressed the geographic scope of the provisions, administrative burdens, the availability of offsets, cost analysis information, economic development issues and various rule language modifications.

Administrative Issues

Fourteen comments stated that the offset provisions were too burdensome for the Department to administer. Seven comments said there was no infrastructure for offsets (including provisions for obtaining, measuring and enforcing). Two comments said that the Department should provide not have required offsets but should set up voluntary reduction incentives from the secondary to the primary control regions. Two comments said that proposing offsets is a discretionary action and the rule needs an Environmental Impact Statement.

Need for Offsets

One comment said the provisions were not necessary for SIP submittal. One comment said the offsets were maintenance requirements are not needed until attainment is achieved. One comment said the offsets are not needed before the rate of progress compliance date.

Economic Development

Nineteen comments stated that the provisions would have impacts on the state economy, especially for small businesses. Some stated it may halt economic growth. Seventeen comments stated that the offset provisions were too burdensome for small or minor sources. Five comments noted that many smaller businesses are not required to report NOx emission under ch. 438, Wis. Adm. Code, but would be required to obtain offsets at the one ton trigger level. Four comments stated that an analysis is needed of the cost impacts on small governmental agencies and the Department of Transportation for 1 ton offsets for new projects. One comment stated that, in California, the offset market has driven the price to as much as $ 11,000 per ton which is higher than the $ 10,000 per ton ceiling in the BACT context. Two comments noted that Illinois and Indiana rules have not included NOx offsets. One comment said that these new and modified source controls are more stringent than those within the NOx SIP Call, subjecting Wisconsin sources to more controls than those for surrounding states.

Offset Availability

Sixteen comments noted that the offsets are required, but would not be available at the effective date of the rule. Alternative effective dates suggested were May 1, 2003 or January 1, 2004. Seven noted that the Department had not done an analysis of offset availability or of potentially affected sources. Six comments said that the offsets are unavailable now and will not be easily generated in the future. Four comments said that existing sources will keep generated offsets for their own future use. One comment noted that offsets will be hard to come by for new EGUs since the primary sources of sufficient offsets will be direct competitors (existing power plants.) One comment said that the short compliance timeframe for rate of progress implies that the offsets market may not be viable until after the milestone.

Geographic Scope

Twenty-one comments stated that the offset requirement is unnecessary outside of the primary control region. Nine comments said the Department should reassess the need for offsets in the secondary control region after taking into account the effects of the implementation of control programs outside Wisconsin. Five comments noted that the 1 ton offsets have a negligible impact in the primary and secondary regions. One comment noted that the primary control region sources are not as likely to generate surplus emission reductions as secondary zone sources, since the primary zone sources have a reduction obligation to start with. Another comment said that secondary control region sources cause or contribute to primary control region nonattainment, yet these sources are not being required to reduce NOx at all under the proposal. One comment suggested that the Department require emission reductions in the primary control region to satisfy rate of progress requirements and require emission reductions in the secondary control region to generate offset credits for anywhere in the state. Three comments stated that satisfying rate of

progress requirements in Southeastern Wisconsin should provide an ample margin of safety against secondary control region controls.

Power Generation and Electric Reliability

Four comments stated that the offset program will halt new electric generating capacity in the control regions, shifting construction locations and increasing transmission requirements. Comments also noted that the provisions could decrease reliability and public safety.

Applicability and Threshold Limits

Seventeen comments noted that the proposed offsets are too burdensome for minor sources. Eleven comments said the one ton threshold was unrealistic. One comment noted that the proposal affects "units" not "sources." One comment said that the offset provisions should not apply to EGUs less than 25 MW. One comment asked if the offsets were based on actual or potential increases. One comment noted that it must be made clear in the proposed rule that new or modified major sources are subject to federal NSR rules and can only obtain offsets in the nonattainment counties. Two comments asked whether certain maintenance activities which do not increase the potential to emit any pollutant or a switch in fuels for which a sources was permitted to use or physically had the capability to use trigger the new offset provisions. One comment asked the Department to clarify whether a source that receives a permit by January 1, 2001 does or does not need to obtain offsets, noting that the language in the greensheet supporting documents suggest that such sources do not need offsets. One comment said that the Department should strive for more ambitious standards.

Technical Comments

Seven comments stated that "modification" needs to be defined. Two comments noted that qualifying emission reductions need better definition. One comment noted that "surplus" needs to be defined. One comment said that "construction or modification" conflicts with "operation" in s. 428.04 (1)(a), Wis. Adm. Code. One comment said the requirements belong in chs. 405, 406 or 408, Wis. Adm. Code.

RATE OF PROGRESS

Seventeen comments were received that made reference to the rate of progress (ROP) portion of the rule package. The most frequent comment was that the ROP reductions were not or did not appear to be necessary to attain the on-hour ozone standard by 2007 and therefore should not be required. One comment said the Department had no authority to require ROP reductions in counties that are attaining the standard or those counties that have no one-hour ozone standard violations. The comment also said the Department had no authority to impose ROP on counties that have or will have modeled attainment. Several comments suggested that although the ROP reductions were not necessary to attain the one-hour ozone standard, if they are required, they should be done in the six severe counties and then counted as a maintenance plan. One comment said the Department had not demonstrated that further volatile organic compound reductions in the six sever nonattainment counties were too expensive.

Several comments suggested limiting the geographic scope of the ROP reductions. One comment said it should be limited, if necessary at all, to the nine county ozone nonattainment area. Six comments suggested it be limited to the six severe nonattainment counties. One comment said it should be limited, if necessary at all, to Kenosha, Manitowoc, Milwaukee and Ozaukee counties. One comment said the reduction requirements should not include any part of the secondary ozone control region and one comment said they should not include any part of the ozone maintenance region.

Two comments requested that the Department drop the contingency measure built into the ROP plan. Also, one comment stated that the averaging period for compliance should be the full 5-month ozone season and that compliance dates for ROP years should be moved to December 31 instead of May 1.

Two comments were received reaffirming the need for ROP. One additional comment suggested that the ROP reductions were too little to be truly protective of public health.

Two comments were received that argued against using performance standards in an ROP plan.

Two comments supported NOx cutpoints for vehicle inspection/maintenance, if needed, as part of the ROP plan. One comment supported the NOx cutpoints as a necessary component of an ROP plan. One comment argued against using NOx cutpoints in an ROP plan.

Two comments supported an alternative ROP plan to those in the rule package. This plan would require EGUs in the six severe nonattainment counties to meet an emission rate of 0.15 lbs/mmbtu and would require reformulated gasoline statewide.

Two comments noted that NOx growth factors and unit capacity factors need to be refined. It was also recommended that volatile organic compound emission reduction should reflect all voluntary reductions as ROP and that these reductions should reflect the lower reported emission reductions.

A number of technical comments were received from EPA, detailing the required documentation and analyses necessary for ROP in the SIP submittal.

MOTOR VEHICLE EMISSION BUDGET

There were four comments received that recommended that the Department should adopt a motor vehicles emission budget that is predicated upon the assumption of high economic growth and a 7.5 percent uncertainty margin, as proposed by the Department at the June 27-29, 2000 public hearings.

One comment recommended that the proposed budget for Manitowoc and Kewaunee Counties be disaggregated and used only for Manitowoc Counties. Another comment requested only that the proposed budgets for Manitowoc and Kewaunee be disaggregated.

Two comments asked for an explanation of how the motor vehicle emissions budgets for Sheboygan, Manitowoc and Kewaunee Counties, as proposed by the Department at the June 27-29, 200 public hearings were calculated, including VMT, population, employment, and socio-economic and housing unit projections.

One comment requested clarification of details involved with MOBILE 5a output compared to MOBILE 5a outputs used for previous conformity determination for year 2020 Sheboygan Area Transportation Plan and 2000-2003 Transportation Improvements Program.

ENFORCEMENT OF NOx CUTPOINTS FOR VEHICLE INSPECTION/MAINTENANCE (I/M)

Seven comments supported implementing pass/fail cutpoints for NOx in the vehicle I/M testing program starting on May 1, 2001. One comment qualified its recommendation based on the measure receiving support from southeast Wisconsin legislators and a demonstration of cost-effectiveness compared to other control measures in the rule package. One comment opposed implementation of the NOx cutpoints enforcement in the rule package.

One comment requested coordination with the Department if the I/M failure rate substantially exceeds five percent. The comment also recommended a sunset provision on NOx cutpoints enforcement when NOx emission reductions are no longer needed to alleviate the burden on other sources or when enforcement is no longer a cost-effective control measure. The Departments' assistance with improving attendance at the Wisconsin Emission Technician training course was also requested. The comment also noted that onboard diagnostic II testing in 2001 was contingent on the ability to subsidize the testing with CMAQ funding.

REFORMULATED GASOLINE

Two comments were received recommending the Department consider extending the area where reformulated gasoline is required.

INDUSTRIAL CLEAN-UP SOLVENT RULE (VOC RACT)

Need and Justification

The Department received comments from nine potentially affected sources on the proposed volatile organic compound (VOC) Reasonably Achievable Control Technology (RACT) emission limits. Several comments questioned the need and justification for the rule. For instance, it was recommended that the lithographic printing section should be eliminated from the proposed rule as the cleaning solvents used are already regulated under the Lithographic Printing RACT rule. It was also recommended that before enacting new RACT rules that the Department needed to establish why current RACT rules are insufficient. A comment asserted that the Department needed to reconcile its current position with that asserted in 1993 when the existing RACT rules were promulgated.

California Basis and Comparison

Comments also questioned the use of California limits that have not been proven in practice. Also, comments noted that differences in an individual state's industrial mix need to be considered when applying another state's rules. For instance, comments noted that in the case of California and Wisconsin, differences in the screen printing and flexographic printing industries need to be reviewed. A comment noted that California is in the process of developing a protocol to evaluate the effectiveness of VOC cleanup solvents for printing operations, and asked if Wisconsin would change its rule if the California rule changes.

Implementation and Compliance Costs

Several comments addressed implementation and compliance costs. Comments noted that the proposed rule will result in a major effort and significant costs for sources associated with testing, recordkeeping, monitoring and new solvents. It was noted that the recordkeeping needed to prove that a source is exempt according to their maximum theoretical emissions would result in an unnecessary and unjustifiable burden. There were also concerns that the proposed rule gives an unfair competitive advantage to competing businesses outside of the nonattainment counties.

VOC Vapor Pressure vs. VOC Content Limits

Commments were received recommending that where the rule mandates low VOC materials, the rule include an option for the use of low vapor pressure solvents which have been recognized as an emissions reducing method on the federal level in CTGs and on the state level in the Lithographic Printing RACT rule. Comments provided data on the effectiveness of these low vapor pressure solvents and stated that not allowing them limits the ability of lithographic printers to clean equipment effectively and in a cost-effective manner.

VOC Solvent Content Limits

Comments received raised serious reservations about the ability of sources to find or create solvents, and to develop the methods necessary to meet the various limits. A general exemption for the use of a limited quantity of high vapor pressure or high VOC content materials annually for difficult cleaning applications where compliant cleanup materials are not available would benefit all affected industries, particularly lithographic printing and screen printing. The comments noted problems with the ink and coating systems used in today's flexible packaging industry which often require organic solvents for effective cleaning.

The comments also provided data and examples of how the existing limits for VOC content in the VOC solvent limits table need to be adjusted. One comment gave reasons that the proposed limit for general flcxographic print cleanup solvents of 0.42 lb VOC/gallon is technically and economically not feasible and recommended a limit of 6.7 lb VOC /gallon. Another comment recommended a new category for specialty flexographic and gravure printing and coating with a limit of 7.4 lb VOC per gallon. Another comment recognized that a new solvent blend of 50%

acetone and 50% toluene for the removal of excessive adhesive from laminated countertops and cabinets appears to work well.

Selected Exempt Compounds

Comments received raised the issue that the use of acetone in a solvent blend for reducing VOC contents of materials could increase solvent VOC emission, result in greater potential exposure for employees, create an ineffective solvent and increase flammability hazards. Comments noted that another alternative exempt compound, methyl acetate, may actually be more hazardous than the VOC solvent that is being replaced. One comment noted potential health effects with parachlorobenzotrifluoride (PCTBF), making it unsuitable for use as an exempt compound solvent mixture.

Clarity and Definitions

Several comments addressed the need for definition and language clarification.

PHOTOCHEMICAL MODELING AND AIR QUALITY ANALYSES

Secondary Control Region

A comment was made that there was no assessment of economic growth in the secondary control region. The comment also noted that the Department did not do an assessment to determine how much growth in the secondary control region results in a violation. One comment said the Department did not do culpability modeling to justify controls in the secondary control region. A comment challenged the zero-out technique, claiming it is not technically sound and not a reliable technique for determining impact. A comment stated that the trajectory analysis does not prove VOC and/or NOx emissions in the secondary area contribute to ozone formation in the primary area. One comment claimed that the CAMx modeling shows that contribution from the secondary control region on the highest ozone days was less than 0.1 ppb. A comment claimed that because southerly winds dominate on high ozone days, there is no need for controls in the secondary control region.

Transport

Several comments noted that transport was the major reason for air quality problems in eastern Wisconsin. A comment stated that the Department failed to address the culpability of upwind sources.

General Attainment Demonstration and Maintenance Plan

A comment said that the Department did not do photochemical modeling analysis that included emission reductions from rate of progress in the severe counties. It claimed that these emission reductions provide a margin of safety (from an air quality perspective) and makes a maintenance plan unnecessary. One comment stated that the Department did not do modeling to demonstrate that controls are necessary for attainment. Comments from the U.S. EPA identified requirements for submitting modeling information.

EXCESS EMISSION FEE

Numerous comments were received stating that the excess emission fee is counterproductive and not required at this time. Comments noted that the fee penalized industries with VOC emissions, with no such fee on industries with NOx emissions. Comments also provided examples of why this would be a disincentive for pollution prevention efforts which might otherwise take place.

Public Health and Air Quality Objectives

The Department received several comments supporting its efforts to attain the one-hour standard with the proposed rule. One comment recommended the proposed rule should be more consistent with the objectives of the eight-hour ozone standard.

Rule Notice and Outreach Efforts

The Department received several comments which requested additional time for comments and meaningful input on the proposed rule. The comments expressed concern about the scope of the proposed rule and the need to get information out statewide and to smaller sources that were affected.

Environmental Impact Review

The Department received comments suggesting that the rules represent a Type II rather than Type III action and therefore require a more extensive environmental analysis than provided in the draft rule package.

TECHNICAL APPENDICES to the PHASE 3 ATTAINMENT PLAN

10. **Phase 3 Attainment Demonstration Completeness Checklist**

11. **AM-27-00 Rule Language** ***(NR 400, 410, 423, 428, 439, 484 & 485 changes)***

12. **Draft AM-43-00 Package (*Plastic Parts Coating RACT*)**

13. **Public Hearing Notice – AM-27-00**

14. **Public Hearing Notice – AM-43-00**

15. **On-Highway Mobile Sources Emissions Modeling – Phase 3 Attainment Demonstration**

16. **Additional Technical Support Details – Rate-of-Progress – 2002, 2005, 2007**

17. **LADCO's Technical Support Documents – 2007 Attainment Assessment**
    - Summary
    - Emissions Inventory
    - AQ Modeling and Attainment Assessment – 1-Hour Attainment Demonstration for the Lake Michigan Region